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ORIGINAL ARTICLES.

ARTICLE I.

HEADACHES AND OTHER NERVOUS SYMPTOMS CAUSED BY FUNCTIONAL ANOMALIES OF THE EYE.*

By HENRY S. OPPENHEIMER, M.D., New York.

Of all symptoms which bring patients to seek the aid of the physician, headache is probably the one most frequently complained of. So many causes produce this symptom—from simple constipation to nephritis or brain tumor—that it would be leading me too far were I to attempt an analysis of them. I intend to call your attention to one cause, however, which is frequently overlooked by the busy practitioner in his search of the origin of the headaches complained of, and that cause is *eye strain.*

---

* Read before the New York County Medical Association, November 19, 1888.

The effect upon health, and even upon the formation of character, exercised by errors of refraction, such as high degrees of hyperopia and myopia, has been extensively discussed, and the necessity for their correction is now generally recognized. The object of this paper is to bring out more particularly the bearing of functional errors in that direction, and of these more especially those of insufficiencies of the ocular muscles.

Headaches of this origin are found so often by the oculist, and in the great majority of cases treated by him relieved so completely, that I hope I shall be excused if I emphasize the fact. If I thereby relieve any medical brother from the embarrassment of a futile search for the efficient cause of a persistent or recurring headache, and from the fruitless use of every article in the pharmacopœia which has ever been known to relieve this symptom, I shall feel amply repaid. . . . . . . A number of our first neurologists and general practitioners have gradually, in the last few years, come to the recognition of the fact that quite a proportion of their cases of headache, etc., etc., depended on the presence of some functional disturbances about the eyes, and were relieved by their proper treatment in competent hands. In this way the oculist has seen a greater number of these patients in that time than ever before.

Many persons afflicted in such a way visit the oculist reluctantly, as they are not aware of any trouble with their eyes, and would never seek his aid if they were not directed to go to him by their medical attendant. More attention has therefore been paid to the careful examination of the functions of accommodation and fixation, and the close relation which exists between the focusing and the directing apparatus of the eye than ever before.

It has been a cause of surprise, to oculists even, to discover how many of the merely functional disturbances of the nervous system, seemingly unconnected with the functions of the eyes, could be relieved by a careful and painstaking study and treatment of the muscular apparatus of these organs.

Personally I have seen a great many such cases, and when I consented to read this paper before you I had a pile of abstracts from my books of record prepared of individual cases, their symptoms, the result of tests, the treatment and its results. I concluded, however, to spare you this infliction, as the specialists amongst you would find it so familiar as to be wearisome, while the general practitioner might find the technical details unintelligible.

I will simply give, in a general way, the different symptoms, variously modified in individuals, which I have observed as existing with muscular asthenopia, and which subsequently disappeared, completely or partially, under the treatment directed to restore the muscular balance. As I am not addressing an audience of specialists, it may be best to go a little into the anatomy and physiology of these ocular muscles. You are all aware that from the margin of the optic foramen, at the apex of the orbit, arise four straight muscles, which come forward and are attached to the sclera of the eyeball a few M. M. from the margin of the cornea. These four muscles, when they act together, draw the eyeball back into the socket. When they act separately they draw the globe in the direction of their origin. Thus, the muscle which arises from the inner margin of the foramen, and is attached near the inner margin of the cornea, will draw the globe towards the median line of the face. The outer one will draw it towards the temporal side ; the upper one upwards and the lower downwards. These are the primary, direct actions. . . . .

. . What I desire to bring forward particularly is the fact that the eyes, in working together, call for a variety of combined action on part of these muscles. Thus, in turning to the side, it is the internal rectus of one eye and the external rectus of the other which participate in the action, while being antagonized by the outer muscle of the one and the inner muscle of the other eye. In looking at an object near by and straight in front, the inner muscles are doing the active work, and the outer ones antagonize. In looking obliquely up or downwards there is a participation by several muscles and an antagonization by several others. Let us remember that each eye has to be directed to a nicety, so that the image shall fall upon the most sensitive part of the retina, the macula lutea, in order that both eyes may see the same object, and that thus single vision with both eyes shall result (binocular vision, as it is called). Let us also remember that the six muscles of each eye are supplied by three different nerves; or, better stated, that the twelve muscles of both eyes are supplied by six different nerves, and that the failure or weakening of any one of these muscles will disturb the harmonious working of both eyes. Considered in this way, the marvel is, not that we have muscular insufficiencies and losses of balance, but that we ever have binocular vision at all—few of the lower animals attain it. It takes the young of the *genus homo* some months before it has control of its ocular muscles sufficiently to obtain and hold a single image with both eyes. Some people never have it. People who squint never have it *while* they squint. Here I may as well define the meaning of the word insufficiency. Clearly a muscle is insufficient which cannot hold the eye in its proper place against its antagonist, and allows this antagonist to draw the eye to its own side, thus causing *squint.* But, technically, we call a muscle insufficient which can do its work, but does it under such a strain as to cause unpleasant symptoms and sensations. In strabismus there is habitual diplopia, whether the patient realizes it or not, and therefore there is an absence of the constant effort to prevent the deviation of the visual lines. It is for this reason very rare to find, in cases of strabismus, the long list of symptoms with which we are so familiar in patients suffering from insufficiency.

In the normal eye in a healthy subject the muscles are so perfectly balanced that they maintain their equilibrium at all ordinary distances, even when the effect of the will is wholly in abeyance. Thus we produce by a prism (of say 10°), held before one eye with its base up or down, a double image, which it shall be beyond the power of the vertical muscles to unite ; and if *the lateral muscles be well balanced*, the two images will stand straight above each other in a vertical line. If, however, one set of the lateral muscles be too weak, there will be a deviation of the image from the vertical line *in the direction of the weak muscle.* If the abducting (externi) muscles be weak, we have the second image displaced to the same side on which the displacing prism is held. If the abducting (interni) muscles be weak, we will have the images crossed. In order to measure the degree of the deviation, we hold prisms laterally before the vacant eye until we find the one which will bring the two images into a vertical line with each other. This gives us the measure of the *latent* insufficiency only. After correcting this with prisms set in spectacles, we frequently discover that much more is developed or displayed. To examine the condition of the vertical muscles we produce laterally displaced images. This I do by using a clever device of Dr. Wilmer's, namely, a pair of abducting prisms set in a spectacle frame and surmounted by a spirit level. This enables us to get the axis of the prisms exactly horizontal. If, therefore, the vertical muscles are perfectly balanced, the double images must stand on the same horizontal plane. The deviation from this we measure with prisms held vertically.

I need hardly say that the condition of the muscles vary in the same individual at different times and in changing conditions of health. Thus, in some nervous women I hear—perhaps during the period of menstruation—complaints of pain or discomfort from the eyes, which may be relieved temporarily with glasses, which they frequently throw aside when they feel strong again. Grief, despondency, diseases, or pregnancy—in short, *a lowering of the muscular tone from whatever cause*—may *bring out* a latent weakness or *produce* one. There is, so far as my experience goes, no observable relation between the severity of the symptoms and the degree of insufficiency. Some people go comfortably about their business with a manifest insufficiency which would drive people of a more nervous organization to distraction.

The nervous irritability of the individual determines, according to my observation, in a great measure, the appearance of many of the symptoms. Hence the great number of cases seen first by the neurologists. People who use their eyes constantly for examining minute objects are very apt to feel slight tendencies to loss of muscular balance. Engravers, book-keepers, draughtsmen, examiners of precious stones, women doing the fine-art embroideries, etc., etc., are likely to be amongst the victims.

In most of the cases which have come under my care there is some trouble of refraction *complicating* the muscular difficulty, and in quite a number of them, as I believe, *causing* it. As in *every other ailment*, so in this, I find that those persons who have most time at their disposal, and therefore have leisure to think of their ailments, are usually the greatest sufferers.

Headache is perhaps the most constant symptom of them all. These headaches are not at all confined to the frontal or temporal regions only, as one would expect; but they may be general, or they may be referred to the vertex or occiput. One of the patients complained of a pain in the back of his neck, which he said left him after he had worn the proper glasses.

The headaches may be constant, or they may come on with the use of the eyes, or perhaps only after the eyes have been used for some hours. Some of the patients wake up with them.

The headaches sometimes take on a neuralgic form, and I have seen two cases where the pains seemed exceedingly severe. One of them, a woman of forty-two, wrote to me, in a most gratifying letter, that for nineteen years she had been obliged to neglect her duties to her family on account of these pains, and that she had not been so happy in all that time as she was since she wore her glasses. She was *myopic*, besides her muscular asthenopia.

Another quite frequent symptom is the inability or the loss of disposition to use the mind. Patients will say that they don't want to think, and when they are obliged to do it, it seems to distress and fatigue them.

It is this class of patients also, strange as it may seem, that are apt to complain of insomnia.

Dizziness, or some sort of vertigo, is not a rare symptom, and it is sure to be complained of where the muscles are barely able to maintain an equilibrium. The least lapse will bring on diplopia, and this is apt to produce vertigo.

One woman of fifty-three, who had almost to be driven to me by one of our best neurologists, as she had been told by an oculist her headaches and dizziness had nothing to do with her eyes, was relieved promptly, by prisms combined with convex cylinders, both of her headaches and vertigo. She had severe tinnitus aurium also, for which she had taken large doses of bromides. I could find nothing wrong with her middle ears, and never dreamed that her eyes could have any causal connection with the tinnitus. Yet this woman, a month later, called again, and during the visit volunteered the information that the noises in her ears disappeared as soon as she put on her glasses, and returned after she took them off. People who find a great portion of their pleasure in reading are most apt to be depressed on finding that they can no longer use their eyes *ad libitum*, and this depression may often produce in persons of a very nervous temperament all sorts of neurasthenic symptoms and also insomnia. It is this particular class of patients who are changed so radically when they find they can use their eyes with comfort again. They react like a confined spring suddenly cut loose, and regain their tone in a remarkable way.

The *treatment* of these cases of insufficiency should always be preceded by a most careful study of each individual; by a rest of the eyes, where possible, with the use of atropine and by a most painstaking correction of the anomalous refraction.

The functions of accommodation and convergence are so closely interdependent, that I find it difficult to gain a satisfactory muscle-test, without knowing first what the state of muscular balance is with the accommodation completely at rest. This will frequently bring out a latent insufficiency which before had been masked. Where there is a refractive error, the correction of this alone sometimes suffices. In fact where there are high degrees of astigmatism I have frequently found that the correcting glasses for the refraction enabled the patient to use the eyes with comfort. Where glasses are needed to correct refraction, it is no additional hardship to the patient to wear a prism combined with the other glass. The objection that there is a cosmetic disadvantage cannot hold good here and on my records the vast majority of the cases of insufficiency which I have observed are in patients with some refractive error. In these patients, when a prism is incorporated with this correction for refraction, there is often some difficulty in their becoming accustomed to its use. I usually begin by correcting the insufficiency about half, or even less, and thus accustom them to accept aid in this way gradually, and increase the strength of the prism as it may be required. When the patient is able to use the eyes with comfort, *I rest satisfied* and make no attempt to attain the ideal balance of the muscles. Where prisms of such a high degree have to be used as to give the patient the uncomfortable sense of everything being convex or concave, I advise tenotomy. I find that under the use of cocaine I can get the balance restored perfectly; or certainly within a degree or two. To accomplish this, I let the patient sit up after some cutting to be tested, and if I have not cut enough I divide more. In this way I have increased the effect three different times, at one sitting, before the result satisfied me. I am aware that as a bit of surgery this does not sound very brilliant; but it is much more satisfactory in the end to the patient, and therefore also to the surgeon.

I have had one case in which I overdid the cutting and was obliged to fish up the tendon and stitch it back; and of the two proceedings I prefer the safer one of cutting twice, rather than that of gaining an over effect.

In the slighter grades of insufficiency I greatly prefer the use of prisms to tenotomy.

Firstly: Because it is the easiest to the patient.

Secondly: Because it is usually sufficient to restore the patient to the comfortable use of his eyes; and

Thirdly: Because restoration to perfect health and condition quite often restores the equilibrium of the muscles and a tenotomy may under these circumstances incline the balance in the opposite direction. I cannot too strongly insist upon my conviction that out of door exercise and all other hygienic and medical means to restore the general health are most important *adjuvants* to the mere special treatment.

So far from setting up an absolute standard for the strength of each set of muscles and dividing tendons until this standard is reached, I believe it is as irrational to set up a standard of muscle power and call deviations from this abnormal, as it is to set up a standard of weight for an adult man and call everyone not coming up to this weight atrophic or phthisical.

I copy from a recent article in the *Archives of Ophthalmology* by the champion of tenotomy, this sentence:

"There may, by a vertical prism, be found no manifest esophoria (his name for deviations inwards), nor is hyperphoria (deviation upwards) shown by the horizontal prism; but the abduction power is less than the standard. (This is in italics.) If, after training the abducting muscles by requiring them to overcome gradually increasing prisms a few minutes at a time for several days, the abducting power remains too low, a weak prism may be worn for a few days with its base out. If even then there is no manifest esophoria and the abducting power is the same or less, and if there is no esophoria in accommodation, an operation is undoubtedly permissible." This, in language familiar to the non-specialist is equivalent to saying: If there is a lateral balance and a vertical balance of the muscles to your test; but the outer muscles do not appear quite as strong as they should be *according to an arbitrary standard*, and if you do not increase the strength of these *supposedly* weak muscles by practice of a few minutes at a time, for several days and do not succeed in weakening them either by resting them in letting prisms do their work for them, then "an operation is undoubtedly permissible."

If we remember that this operation would be a tenotomy of the internus muscle—the muscle which of all others needs to be strong in order to converge properly—and that there is more or less convergence required for all distances within twenty feet (which means, in a city, almost all the time) we get an idea to what a dangerous extent a hobby can be ridden. In such a case I should say, if a weak prism, worn for a few days gives relief, let the patient continue to wear it, and when it ceases to do so, *increase its strength.* I do not wish to have it inferred that I do not tenotomize the internus for a pronounced insufficiency of the exterior. I have had some excellent results doing this, where I thought it indicated; but I do not operate for ailments, imagined by the patients or the physician. And I do not claim to make effectual cures of epilepsy or chorea by tenotomy.

To sum up the treatment of cases of eye-strain as I pursue it for headaches and other nervous symptoms produced by eye strain:

First: All hygienic and medical indications to be carefully carried out by the attending physician.

Second: A most careful correction of the refraction and accommodation.

Third: Correction of muscular insufficiencies by prisms, begun with a less degree of strength than apparently necessary, and increased if this should prove insufficient.

Fourth: Tenotomy, if prisms do not relieve, or if they cause too much discomfort of themselves; and finally, when the patient can use his eyes with comfort, with the correction given him, I rest satisfied and I cannot think any operation justifiable under similar conditions.

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ARTICLE II.

MYSTICISM IN THE DEVELOPMENT OF MEDICINE.*

By M. A. Rust, M.D., Richmond, Va.

Medical periodicals are daily pouring out a flood of facts, which, indiscriminately gulped down will prove a useless incumbrance to the memory. A fact without an idea is dead matter: at the best it lies dormant till a master mind " breatheth into it the breath of life and it becometh a living soul." However great his merit may be, science is advanced, not by him who chances to see what nobody before has seen, but as Schopenhauer says, by him who, in seeing what everybody sees, thinks what nobody before has thought.

Galileo's eye could only see what the Rev. John Jasper sees, the earth standing still and the sun revolving round it. It was the great Italian's mind that conceived precisely the reverse of what appears to the outer sense. Thus, out of an infinity of generally known facts and minute observations, Darwin built up a theory which astonished, enraptured and convinced the whole scientific world.

We live in a time of transition; we witness the waning, crumbling and decay of time-honored dogmas, beliefs and doctrines, and behold the great process of fermentation and the germination of new life in the whole intellectual domain. In no province of that domain, however, has, within the last half century, the upheaval of thought been more manifest than in medicine and (to quote the words of Virchow, at the London Congress) " we have reached the point which marks the boundary between ancient and modern medicine."

But medicine is of a dual nature, it bears two faces; it is true science, law and order on one side: it is healing art, empiricism and confusion on the other. Athwart the healing art a stream from the occult, the mysterious, has at all times flowed. The once mighty stream has been partially dried up by the brighter sun of our age; a remaining undercurrent, however, is still perceptible.

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* Read before the Medical Society of Virginia, October, 1888.

We are here assembled, physicians and surgeons, a common brotherhood; but medicine and surgery have not sprung from the same germs. Medicine men, augurs, priests, wizards, jugglers—these are the germs out of which medicine has been evolved. On the other hand we may regard the steward of the Greek gymnasium, on whom devolved the duty of giving aid to wounded wrestlers, as a surgeon in an embryonic form. Likewise in the frequent wars surgery developed into a special handicraft. In the Homeric era we see the sons of Asclepias, warriors and heroes themselves, sucking the blood from and pouring balm into the wound of Menelaus. In the earlier time of the Roman republic (medicine or surgery as a profession being then entirely unknown) the sturdy Roman soldiers dressed each others wounds. In the Augustan age the military surgeon is already called into being and from that time we find him at work in the camps of all successive armies.

From the earliest beginnings, through all its transitional stages, surgery presents nothing that is occult or mysterious, if it be not the appearance on the scene of that two-sided being who trims and shaves beards with one hand and plasters wounds and sets broken bones with the other—the barber-surgeon. How he was evolved we can only conjecturally state. Be it as it may, since time immemorial, surgery of some kind has clung to the tonsorial art.

Throughout the Middle Ages, up to a time approaching ours, the practice of surgery was in the hands of the barber-surgeon. In the earlier part of the Dark Ages the lower clergy, especially the monks, regarded the exercise of the healing art as their legitimate privilege. Surgery, on the contrary, was viewed by the church as something unholy. By the decrees of popes and ecumenical councils, monks and priestly leeches were inhibited from cutting and burning, etc. Barber-surgeons officiated in their two-fold capacity in cloisters and hospitals connected therewith. Even at a later and more enlightened period of time, the university-trained, learned doctors considered cutting, burning and plastering as undignified for a *medicus rationalis*. Thus the barber-surgeon grew in importance and power. He performed most of the surgical operations and for a long period of time the barber shop formed the only causeway leading to surgery. (Ambroise Paré, the greatest reformer of surgery in the sixteenth century, was originally a barber-surgeon; he served his three years apprenticeship in a barber shop whence he passed into his high school—the battlefield.) But the teaching of medicine in the new-founded universities had lifted surgery to a higher level, higher than that from which it had sunk with the downfall of the ancient world. As the scientific surgeon advanced, the mongrel barber-surgeon receded more and more into the shade. He is now mostly extinct; but his counterpart, the barber of to-day, still holds, in many localities, as a legacy from the past, the privilege of performing sundry functions of minor surgery—bleeding, cupping, leeching, tooth pulling, the application of enemas, etc., * and his shop with the ancient sign of two brass basins is still conspicuous in many small towns and villages all over the old world.

The ancient German designation for surgeon, "Feldscherer," camp or field shearer, still survives with some people. The keepers of bath houses likewise practiced some kind of minor surgery. Old fashioned people in Germany still call the surgeon "Bader" bather, one who administers baths, Balneator, to boot in localities where a bath tub belongs to the things unknown.†

For completeness sake we will briefly add that the executioner also dabbled in surgery, and often enough acquired a kind of reputation.

Now whether we step back to the archaic steward of the Greek gymnasium and watch him setting fractured limbs and reducing luxations; or whether again ascending we take a bird's-eye view of the highly developed surgery of Greece and Alexandria, or whether we follow the movements of the barber-surgeon through the dark mystic ages till the dawn of modern times, we shall find everywhere and at all times that the work of the surgeon is tangible work; we shall find

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* Before the introduction of the flexible clysopomp the application of a clyster was not so simple a performance as it is to-day. When the doctor ordered an enema the surgeon-barber or the simple barber was called and he appeared with a large gun-like syringe under his arm. In the spring tide of my life I have seen him in this attitude walking the streets alive and you may find him figured, in like manner, in contemporaneous drawings and caricatures.

† In former, and in this respect better times, bathing was in more general use than now. In Paris a number of streets along the banks of the Seine, and in other quarters were filled with public bath houses. At one time two hundred such establishments were registered. The "etuvistes" (those who administered warm baths) formed a powerful guild; several streets bore a corresponding designation (Rue des Etuvistes, etc.) Similar establishments existed in almost every town of France, Germany, and other countries, and every Saturday evening a procession of men, beating on brass basins, passed through the streets to remind the trade folk of the bathing hour. "The workingman," says Hufeland, "washed off at least once a week that dirt which now sticks to him during lifetime." About a century has passed since Hufeland wrote these words, and much improvement in this respect has taken place; but the blissful custom has not as yet reached its former height. It was the spread of syphilis which dealt a death blow to public bathing.

surgery ever free from mystery, ever plying its task inside the range of natural causation.

It is different in regard to medicine. The healing art still bears vestiges of its descent. A faint family likeness yet exists between the professional healer and the ancestral medicine men, jugglers, conjurors and priests.

In primitive times, when diseases were laid upon men by supernatural powers, the remedy was likewise looked for from occult and super-physical agencies. Assuaging angry gods and expelling evil spirits who had taken up their abode in the human body were feats to be achieved only by a peculiar class of men endowed with superhuman powers.

Priest-craft and the healing art coalesced into one and the same sacred profession, of which the actually existing and ministering medicine man in the Indian Territory or on the banks of the Congo is a living prototype.

Indeed, when we read in books of travels of the dancing, hopping and rattling of the *Shaman* or medicine man, and in old chronicles of the brawling and squalling of the conjuring and exorcising monk, we become deeply impressed by the awful similarity between the two performances.

Theurgic medicine, as practiced in the Middle Ages by rustic monks, took shape and color from the co-operation of various factors. Foremost stands the Judaic-Christian devil. Although imported from Judea, our now departed devil was by birth not a Jew but a Persian, the once almighty anti-god *Ahrimar*, who had wielded his sceptre over the great empires of Persia, Media, Assyria and Babylonia. After his immigration into Palestina, under the influence of the Jewish medium, he subsided into a flinching, skulking devil, who, when frightened, did not disdain, on one occasion, as we are told, to seek refuge in a herd of swine. During his stay on that holy speck of earth his favorite sport seems to have consisted in entering into the bodies of the unblest and tormenting them with cramps, palsy, fever, etc., as recounted with sufficient diffuseness and repetitions in the newer part of the "book of books."

In the great world-stirring metamorphosis of Judaism into Christianity, *Satan*, with all his legions of lesser devils, retained his place, and in the course of time developed into that towering, monstrous figure whose remembrance in still kept alive by legendary traditions and Sunday-school teachers.

The populations of the Roman Empire, whilst partly relinquishing their old, decrepid gods and flocking around the cross, did not renounce their deep-rooted belief in magic and sorcery, in good and evil spirits who constantly meddled with life and death, health and disease. Compelled to compromise, the Christian missionary made those weird notions chime in with his own supernatural tenets. Miracles replaced the feats of magic art; relics took the place of the wizard's wand; special saints guarded against all kinds of special diseases in place of the discarded tutelary gods. The missionary likewise had to make the best of the sprites, goblins, gnomes and elves with which the religion of the Teutons teemed. Failing to expunge totally the native northern gods, he at least succeeded in degrading them into demons. *Wodan*, as well as his colleague Jupiter, was forced to hold office under the orders of the devil.

Rooted in this farrago of figments, myths, legends and weird conceptions, the upas-tree of diabolism, of demoniacal nosology, pathology and therapeutics of witchcraft and bewitchedness, developed and branched out into gigantic dimensions, infecting Christianity with a baneful mental epidemic. At the time of the revival of letters, when Christendom dreamed its first morning dream of intellectual freedom, the scourge entered its most virulent stadium; to the pathology of witchcraft a new chapter was added—*heresy*.

The study of medicine had passed from the cloisters to the universities, from ignorant monks to learned lay doctors; the monopoly of medical practice had been wrested from the priestly grasp. Great advances in natural science, in all branches of medical sciences, were made. Still, theurgy, traumaturgy, mysticism, continued to cleave to the healing art. The revived study of the Greek masters degenerated into cabalistic speculations, into mystic new platonism.

The mediæval doctor was an imposing personage, stared at with wonderment and awe. He was supposed to know all the secrets of creation, and, indeed, was greatly concerned about alchemy, astrology, the search after the elixir of life, the philosopher's stone, etc. Demons were not excluded from his etiology; he respected the devil, and the devil respected him. His professional acts were held to spring from divine inspiration, which by no means precluded their successful coping, in point of absurdity, with the frantic performances of an Indian medicine man.

At an epoch when original thought was a most dangerous thing, in the middle of the sixteenth century, there arose in *Theophrastus Bombastus Paracelsus von Hohenheim* the greatest reformer of medicine. A genius of the first rank, he recognized the lack of coherent thought, the emptiness and absurdity of the prevailing healing art, and made an attempt to sweep away the old and build up a new system of medicine. In all his writings, amidst dense mystic clouds, a multitude of dazzling thoughts blaze up like flashes of electric light. His conception of life in its relation to the surrounding world, and his ideas about man's integration with the cosmos, though shrouded in cabalistic phrases, are centuries in advance of his time—a time when the gap, postulated by theology, between man and the rest of nature was at its widest. As a representative of new platonism he assumed a hidden capacity in man for passing beyond the limits of the knowable by means of intuition which can only spring from divine inspiration. The centre of gravity of his reformatory endeavors lies in his therapeutics. He introduced into practice the application of metallic or mineral medicaments—sulphur, gold, iron, antimonium, tin, copper, arsenic, etc.—and taught the ways of preparing vegetable extracts, tinctures and essences. To him, however, it is not so much the material, but the immaterial, the spiritual element (*quinta essentia*) of the medicaments which constituted the specific remedies against diseases.

It was the belief of the time that disease did not exist in Paradise, and that the seed of it was sowed in consequence of Adam's sin. Accordingly, Paracelsus held that God, in His mercy, created a specific remedy for every possible disease, and that it should be the task of the physician to find this remedy and unlock its hidden magic power. The whole world, he says, is a big pharmacy, and God the chief apothecary.

Some small rills of mystic fluid have flowed down from Paracelsus to our time. We note principally:

1. Homœopathy, whose heyday is past. Paracelsus already emphasized the spiritual elements in medicaments ("*Quo minus corporis est, eo magis virtutis in medicina*"), and recognized the principle of *similia similibus curantur.*

2. The shallow, short-lived system of Rademacher. Rademacher, like Paracelsus, classified the diseases according to the specific remedies which heal them; consequently, turpentine disease, copper disease, antimon disease, helleborus disease, etc.

3. Mesmerism. Paracelsus was the first who introduced the artificial magnet into the healing art, and who treated nervous diseases by various magnetizing procedures. This method was freely imitated, though not further developed, by his followers and by itinerary charlatans, till the mystic procedure suddenly swelled to a mighty stream through *Mesmer's* pretended discovery of the so-called "animal mag-

netism." It was a thing of naught, a heap of self-deception and intentional fraud containing a grain of truth, but it has nevertheless maintained its ground to this day. It branched out into somnambulism, spiritualism, hypnotism, etc., and constitutes the last portion of our inheritance from the old mysticism. This morsel of mysticism, however, has retained vital power enough to throw out new shoots. If a development will eventually take place, and of what nature it will be, still lies hidden in the womb of time.

It does not fall within our province to proceed further on this slippery ground. Still it is gratifying to think that the modern spiritualistic ghost, tamed and trained like a pet dog by yonder fat lady in a silken robe, who acts as a medium betwixt us and the new fashioned supernatural world can no longer be an object of fear and awe like his quondam compeer—the midnight or churchyard ghost of bygone days.

I should now like to follow the development and the advances of medicine from the sixteenth to the nineteenth century; but, in a short paper like this I could not even touch upon the subject with any advantage. The road travelled over in these three centuries is marked by the ruins of exploded theories and shattered systems; nevertheless, the praiseworthy labors of our predecessors have accumulated priceless treasures of materials of which we constantly avail ourselves with a feeling of reverent gratitude. Mysticism, all along, crops forth in the writings of the most sensible medical authors, but gradually loses its hold. Survivals of the old weird conceptions are still infolded in certain expressions we daily use in relation to disease, *e. g.*, "visitation" "trial," "dispensation," "punishment," "infliction," "attack," "stroke," "seizure," "spell," "trance," etc., are terms we use to designate disease, without a thought of their former meaning. Every language holds enshrined in its words the records of the mental evolution of our race—a history richer than any yet written.

At all times the healing art has been shifting and fluttering from one method to another; what at one time was regarded as life saving, at another is considered homicidal; therapeutical experience of yesterday is gainsayed by the experience of to-day, and this, in its turn, will be rebutted by the experience of to-morrow. Dr. Smith's experience subverts Dr. Jones' experience, and vice versa.

New methods, new fashions of treatment spring up, to be supplanted by other novelties—the belief in drugs and the eagerness after the last thing out remaining the same. In the times of the stage coach a new remedy lasted about a decennium. Steam and electricity have rendered it as short lived as a May fly; the new laid egg is found to be barren before the happy hen's cackling over it has ceased. Only a few months ago, in the midst of the exultation at the new *Bergen* remedy against consumption, the fiasco came flashing over the wires from all points of the compass. The newest remedy now lies shelved in the huge lumber room of the *materia medica*, together with the nut-brown, brunette and flaxen cod-liver oil, with antimonium, iodine, phosphor and other consumption cures, with all the endless processions of specifics against typhoid fever, scarlet fever, diphtheria, etc.

Has a single case of these diseases ever been healed by a drug? On the other hand the successes of the expectant method, of hydro-therapeia, of homœopathy demonstrate in the most convincing manner that diseases can and do heal without the agency of a drug. Albeit the craving for drugs amongst the public is insatiable, the magnitude of the consumption appalling, the consequences in many instances, disastrous. The only one to profit by it is the vender of nostrums who collects his obolus from nearly every soul in the land.

Said a cure-all vender to a newspaper interviewer: "My salves which consist of rancid axle grease sell like hot cakes. Why do I not conceal the bad smell? Bless you, I do not buy the cheapest grease for the sake of saving a few cents, but for the smell; it is precisely the vile smell which imposes on the country people." We may likewise add that as the actual vile smell imposes on the clodhopper, so does the moral stench of deceitful advertisements impose on the so-called educated classes.

It was the custom in Babylon to lay the sick man on a couch in the public square and let the passers by suggest remedies (what a golden opportunity for those good souls who are so passionately fond of *suggesting* in cases of sickness). In our days the sick man stays at home it is not the passers-by but those beguiling advertising sheets, quack pamphlets, and almanacs that do the *suggesting* with thousand tongues.

The enlightened physician is fully aware of this state of things and would fain emancipate himself from all that is mystic, priestly and untrue in medicine, would the public only let him. The nature of most of the morbid processes is to the practitioner a sealed book, whilst the public foists upon him omniscience; he dares not confess ignorance and uses words, which whilst they express, conceal. In regard to the healing art, mysticism is, among the public of to-day, as rank as it was at Paracelsus' time. Disease is still regarded as an inimical entity that has to be fought with all possible and impossible earthly and unearthly weapons. Ghostlike "cold" continually haunts timid people; no part of the body wherein it does not "settle,"bushels of pills are swallowed to cast it out. Prayers are sent up to scotch a disease. For every special complaint a drug that heals the disorder lies hidden somewhere —and if Dr. Smith cannot find it Dr. Jones can—and so they change doctors. Greatness is bestowed on the healer who can make the greatest fuss and stir.

The *armamentarium therapeuticum* bristles with healing appliances which are much like the famous knife of Lichtenberg—a knife that has no handle and of which the blade is missing. Now, if Dr. Jones, with honest purpose and conscious of his higher aim, uses such weapon, when driven to fight "the impossible battle against mortality" who will cast a slur upon him? That there is a dash of mysticism in the *Placebo* we admit, but most emphatically deny actuation by the maxim: *Mundus vult decipi.* The *Placebo* is, as it were, the consideration for which we acquire the privilege of observing the patient undisturbed, of benefiting him by truer remedies derived from outside the pharmacopœa,* of controlling his surroundings and of evoking beneficial and discarding inimical influences.

Advanced medicine, on whose ministry the welfare of humanity depends, cannot afford to cede the field to quackery. We are compelled to compromise with hereditary superstitions as the early Christian missionary compromised with the heathen gods.

Every one of us have observed that the old healing art, wrapped in its clouds of mysticism, is tottering to its fall; every one of us feels that hygienic and preventive medicine, physiological medicine resting on the science of life, is the medicine of the future. In that coming time the physician will be a public functionary of the highest order, invested with the guardianship of the welfare and happiness of the human race, present and future. At the same time we must be aware that neither of us, old or young, will live to see that day. Such revolutions are never achieved by leaps, neither by wise arguments nor by boisterous agitation. The change must be brought about by evolution and adaptation—through the slowly acting force of educated public opinion; finally there comes a crisis, an upheaval of thought, when the thing, erstwhile generally and firmly believed in, appears to the majority of men as palpably absurd, as to us the wigs on the sweating heads of our forefathers.

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* Of course this will not be taken in an indiscriminate, sweeping sense. From opium, already known in the Hippocratic era, down to chinin, chloroform, and cocaine, there are numerous invaluable, pharmaceutical remedies whose physiological action has beeen accurately observed and experimentally established. I fully subscribe—and in a wider sense—to Hufeland's saying: "without opium I should not like to be a physician."

Public opinion, we have said, must become better educated, more enlightened, before the old healing art can be superseded by rational, physiological medicine. Whilst general culture has in our days advanced with rapid strides, the field of the knowledge of life and health still lies overgrown with the weeds of superstition and darkened by the fogs of ignorance.

It has been proposed to teach physiology and hygiene in the public schools. By all means; it would be a great point gained if the schoolboy learns that there exists a science of health by which he must be guided in every walk of life. But suppose you cram into a schoolboy's head all the lore of which a young doctor is possessed on leaving a medical college that marches at double-quick—what does he know about the science of life? Life cannot be studied, disconnected from its surroundings. Knowledge of the surroundings of man means a knowledge of the whole of nature. This knowledge the coming physician must acquire, without it he cannot fulfil his high vocation of keeping watch over and of regulating all the relations between human life and the outside world, and of promoting by sanitary measures the healthful development of the race.

There are plenty of men in our midst who, in this regard, stand at the height of science; but these are mostly self-educated men, men who have given to these studies the whole of their time and their life in after college years.

Preliminary examination by a special examining board previous to admittance into a medical college, five years' study before graduation, will soon be the universal demand for the protection of the public and for the maintenance of the efficiency and dignity of the profession.*

It is not the school teacher, but the physician, and the physician only, who can disseminate among the public sounder views and better knowledge of life, health and disease. But how can he lead the public mind to these truer conceptions which he himself does not possess?

No doubt the scent of burnt offerings operates propitiously on the gods; but, says Goethe, "when the priest has a cold in the head, the gods cannot smell."

And here I close, reserving contemplation of the medicine of the future for another occasion.

To the quotation from Virchow, at the beginning of this paper, I will add that we are already standing, though with one foot only, on the new ground. Sanitary boards, boards of health, etc., represent that step in advance. The already numerous and steadily increasing body of hygienists, biologists, etc., are the pioneers of the medicine of the future; however great may be the services they have already rendered to humanity, they can, by necessity, only be regarded as the hewers of wood and drawers of water for the coming generations.

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* We rejoice in chronicling a great step in advance made in our community by the creation of a medical examining board. It is only a germ, but a living promising germ which cannot fail to develop.

Not all of you will approve all I have said. Many persons dislike cold-blooded vivisection applied to old habits of thought and cherished beliefs. To them I apologize. The little sketch I have drawn is conceived in the love of humanity and of science. It is a somewhat blurred but true picture held before you invertedly; it is like Jean Paul's bird, *Merops*, which, head down, tail up, nevertheless soars heavenwards.

October, 1888.

SELECTIONS.

VASO-RENAL CHANGES AS A FACTOR IN CAUSATION OF STILL-BIRTHS.* By Dr. E. P. Christian, Wyandotte, Mich.

There are other considerable causes of still-births besides dystociæ, ergot and syphilis. These three are generally regarded as the principal causes; and it is almost certain that the last two are also held responsible for many still-born children for whose deaths they have been in no way answerable.

To illustrate, permit me to cite the history of a recent case, fresh in memory, not as a case coming within the scope of the title and subject of this paper, but as an example of many which could be cited to show how easily a mistaken judgment may be formed as to the cause of death in such cases.

I was called to attend, by previous engagement, Mrs. C. in her third confinement; having delivered her in her two previous labors, by forceps, with safety to mother and child, after somewhat tedious and painless labors. The patient had been in powerless labor all night, when I was summoned at 2 A. M., and arrived just as the babe was born and to see her husband's brother, Dr. C., who lived in the same house and who had been hastily called in from his room, making ineffectual attempts to excite inspiration in the just extruded infant. The cord had not yet been cut—there had been no prolapsus of the cord. I felt of it. It was flabby, cold, and pulseless. The child was pulseless, but yet warm. The doctor stated that he had just come into the room; that the patient had had no pains until just before he came in, when she had one, as she expressed it, of agonizing severity, which seemed to tear her side, and that he had just got to her as the head emerged with a second pain. The child was dead, past all efforts at resuscitation, and the doctor was chagrined as well as puzzled. While he was giving his attention to the child with continued efforts at resuscitation, I gave mine to the mother. I found the placenta loose, presenting at os uteri, and its extrusion was followed by a mass of clots sufficient to fill an ordinary chamber-pot, besides some of the fluid portion which had soaked in the bedding. The funis not exceeding fifteen inches in length—there could have been no prolapsus with this brevity—and the child born purple but warm, showing it to have been not long dead.

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* Read before the Detroit Gynæcological Society, April 7, 1888. *Annals of Gynæcology*, July, 1888.

Now here was a powerless labor, rendered so probably by the short funis attached to the placenta dragging upon and counteracting the contractions of the attached portion of uterine walls; when, as the head began to emerge and was receiving the force of the contracting posterior perinæum, the placenta was torn from its attachment, and before another pain came on the child was lost—asphyxiated. The evidence was complete; the character of the labor, the tearing pain at the last, the detached placenta, the uterus full of clots, and the asphyxiated, still-born child—without any other possible cause, not even ergot or syphilis as a scape-goat.

Here was a powerless labor progressing in which ergot would have been indicated, and in which, had a physician been called early, it would probably have been given; and had it been given, and with the same termination, it certainly would have received the blame.

The only course which could have saved this child would have been that the physician, having been called sufficiently early, and having detected the condition and danger, should have applied the forceps so soon as the os was dilated and the head sufficiently low, and have delivered at once as in her previous labors.

The case may seem irrelevant to the scope of the paper as indicated in its title, but is given because fresh in memory by reason of recent occurrence, and as an illustration of a fact which the paper is also designed to point out, viz., that there are other considerable factors in the causation of still-births besides ordinary cases of dystociæ, syphilis and ergot, and that the last two of these causes are at times unjustly charged with the causation of still-births for which they are in no way responsible,

Among these causes I design more particularly at this time to consider vaso-renal changes as a factor, and in this class, as the most prominent one, I propose to give an analysis and history of my cases of puerperal eclampsia, a large proportion of which, and of all such cases, may presumably be embraced in this class. These cases are ordinarily considered under the head of one form of dystociæ, and a certain proportion of the still-births in these cases are without doubt due to other complications of labor than either the albuminuria or the eclampsia. Still the proportion of still-births in these cases due directly to hæmic alterations in the mother from the deranged urinary functions as causing deranged urinary secretions, or indirectly due to deranged placental circulation from the same cause, embraces a large percentage of all the cases.

The cause of these vaso-renal changes, leading in some cases to albuminuria, and in others to other disordered renal functions, in pregnancy, is a subject enveloped as yet in a great degree of obscurity. And yet the suggestions which may be advanced as regards the condition amount to something more than mere speculation. Dr. Fothergill has showed how these vaso-renal changes culminating in the various manifestations of gout, Bright's disease, etc., have their beginnings in deranged hepatic function, and this from digestive derangements.

May we not find, then, in the increased demands made upon the digestive organs of the mother in gestation for the supply of the means of development and growth of the fœtus, one probable cause of these changes?

Dr. J. E. Kelley, F.R.C.S.I., M.R.I.A., in a paper read before the Section of Obstetrics in the thirty-eighth annual meeting of the American Medical Association, and published in the journal of the Association for December 3, 1887, entitled "Lithiasis in Pregnancy," gives us some most interesting and suggestive ideas on the subject. From this paper I shall take the liberty of making some short quotations bearing upon the subject more or less directly in its relation to stillbirths. Says he:

"If we now turn our attention to the phenomena of pregnancy, we cannot fail to observe a remarkable coincidence between the diseases as well as the pathology of that condition and lithiasis. All these features to which I have alluded when reviewing lithiasis are frequently seen in pregnancy. The structural changes which are present in the former are of common occurrence, and the physiological conditions of gestation are favorable to its development. In the etiology of the two classes of diseases the parallel is sustained, as in both we have the same hæmic influences, the same irritable or explosive state of the nervous system, and the same renal and digestive disturbances." And again:

"The conditions of the maternal blood in gestation is in keeping with the physiological relation which exists between the mother and the development of the fœtus. The cell-changes of the composite animal are increased proportionally with the growth of the fœtus and the containing uterus. The fœtal organs, with the exception of the heart and liver, are practically inert, and the double duty is imposed on the corresponding maternal organs. The medium through which these additional functions are performed is the maternal blood, and consequently the quantity of the nutritive and the excretory substances conveyed are necessarily increased, and, owing to the greater constructive and metabolic energy exerted during the process of development, increased most probably more than in the ratio of the utero-fœtal mass to the mother. The chief nutritive and excretory matters circulating in the blood are nitrogenous and inorganic, and consequently are conducive to the development of lithiasis as well as puerperal septicæmia, eclampsia, peritonitis, and thrombosis." And again:

"The hepatic disturbances are additionally interesting, owing to the weight of evidence which has been adduced to convict the liver of being the chief offender in the production of lithiasis. There is undoubtedly more than a causal (casual ?) relation between pregnancy and hepatic disturbance, as is evidenced by the frequency of pigmentation and jaundice, acute yellow atrophy of the liver, a disease which is associated with gestation with significant frequency."

In such statements and suggestions we have the explanation of many of the phenomena presenting in gestations and parturitions resulting in still-births, and the evidence that there is more than a casual connection between vaso-renal changes in the mother and the consecutive accident of a still-born fœtus.

Probably the most frequent of still-births from this cause are consecutive to albuminuria in the mother; and I here present a history and analysis of the cases of puerperal eclampsia occurring in my practice—not only those associated with albuminuria, but from whatever cause.

Case I.—Mrs. W., Irish, ninth gestation, at full time. Died undelivered, without indications of labor. Went into convulsions, in which state I was called to her, and consequently had no opportunity of examining urine. She became comatose and never revived. Probably was albuminuric, as she had convulsions, as I learned, in her first and fourth labors.

Case II.—Mrs. R., French Canadian, first labor, at full term; child delivered dead by forceps; woman apparently improved, but died afterwards of peritonitis.

Case III.—Mrs. G., French Canadian, second, all previous and subsequent labors natural. Had convulsions twice between seventh and ninth month. Went to full time, and delivered without accident to mother or child.

Case IV.—Mrs. L., American, fourth. Post-partum convulsions proved fatal to mother; child living. No opportunity of testing urine.

Case V.—Mrs. S., German, second. Convulsions at seventh month; went full time, and delivered without further accident safely to mother and child. Urine highly albuminous. Woman stated that she had convulsions in her first labor,

Case VI.—Mrs. McG., sixth labor, Irish, very stout. Post-partum convulsion, bled freely, and patient recovered rapidly; child all right. This woman, some years after, fell dead in an apoplectic fit. I never detected albumen on trial, but woman presented general indications of it, and no doubt had some form of vaso-renal trouble.

Case VII.—Mrs. M., Irish, eighth, stout, full-blooded woman. Post-partum convulsion, bled freely; woman quickly recovered, and is yet living and healthy, and the child now at age of seventeen.

Case VIII.—Mrs. T., American, also very stout woman, second labor, first labor fifteen years ago; labor at term terminated safely to mother and child, though patient had repeated convulsions for twenty-four hours before termination of labor. She also was bled freely. Urine highly albuminous, probably chronic, Bright's disease, as in a succeeding pregnancy it was deemed advisable, on a consultation, to bring on a miscarriage at fourth month, so threatening were the symptoms already presenting. The woman left the place afterwards, and I know nothing of her subsequent history.

Case IX.—Mrs. T., American, eleventh; also a very stout, plethoric woman. She was seized with a convulsion at third month, which left a partial paralysis for some time; was freely bled, and recovered and went to full term, and was safely delivered. This patient's urine was albuminous, as a rule, in her pregnancies, and she was, as a rule, freely bled for intense headeache and other threatening symptoms, and in one gestation was bled at third, and again at seventh, month. After having borne twelve children she discontinued the practice, some years since, and is living in as good a state of comfort as could be expected of one carrying some three hundred pounds avoirdupois.

Case X.—Mrs. D., American, second; died on second day after delivery, of suppression of urine and coma. The case was seen in consultation. Child was still-born.

Case XI.—Mrs. W., American, third; a woman very much broken down, which condition had been attributed to frequent abortions, with severe hæmorrhages, and which may have been either the cause or the sequence of chronic albuminuria, for which, in an aggravated form, the woman was under treatment when taken with convulsions and labor at seventh month. The labor was terminated by forceps while the woman was unconscious. The child was dead, and the woman never came out of her stupor.

Case XII.—Mrs. P., American, first; convulsions at seventh month; never came out of her stupor, and died undelivered, with no indications of labor. The case was seen in consultation.

Case XIII.—Mrs. C., American, first; at full time. Labor progressed satisfactorily until completion of first stage, when, the os and perinæum being at greatest stretch and tension by occupation of the head, the woman suddenly went into a convulsion, as I supposed from reflex irritation, and the child was at once safely delivered by forceps. Albumen was afterwards found in large amount in the woman's urine, and after lingering some ten days she died of peritonitis.

Case XIV.—Mrs. L., French-Canadian, first; convulsions announced the commencement of labor. The labor was a very difficult one, aside from the complication of the eclampsia. A very short funis prevented the descent of the child, as was ascertained after delivery. The forceps was applied when the head was sufficiently low and the os dilated, and the child delivered dead, with the funis separated at the child's abdomen. The placenta was still very firmly adherent to uterine walls. The mother died comatose.

Case XV.—Mrs. W., American, first; this was similar to Case XIII. Reflex convulsion at completion of first stage; forceps applied and woman delivered of living boy. Woman speedily recovered.

Case XVI.—Mrs. H., German, seventh; similar to last as regards reflex nature, but labor complicated by breech presentation of a twelve-pound child. Labor terminated by forceps to after-coming head with safety to mother and child.

To generalize from a small number of even so comparatively rare an accident of gestation as eclampsia would be unprofitable, and especially so in one presenting such a variety of aspects and relation as this one, which may present the most profound uræmic intoxication as its obvious cause, and again no apparent functional urinary derangement, but merely an explosive irritability of the nervous system, which may prove fatal to mother and unborn offspring in an unretarded and otherwise uncomplicated labor, and again from which, with the most serious complications, both emerge with safety. Yet, if not to generalize, it may be permissible to study the points of interest connected with the cases. This, fortunately, is adjudged one of the rarer complications of gestation, though, like others, presenting great differences in the experience of leading accoucheurs.

Cazeaux, in more than two thousand cases, at Hotel Dieu and LaCharité, met with but three cases; Velpeau, in one thousand accouchments at La Clinique, not one case.

"Statements furnished by Madame Lachapelle, Merriman, Ryan, Pacoud DeBourg, and others give about one case in two hundred deliveries," "and collected experiences of principal accoucheurs of Europe give about one in four hundred and eighty-five." Churchill's statistics give one in six hundred and eighteen and three-fourths.

My own experience has been one case in one hundred and six gesations carried past six months. Though this statement affords no criterion of its relative frequency to all labors, for the reason that I have probably seen most of the cases, for quite a number of years at least, which have occurred in my vicinity, whereas I have seen but a comparatively small part of the labors which have occurred within the same time and territory, and a true criterion of the ratio could only be had by knowing how many labors had occurred. Herein lies one of the fallacies of generalizing, in judging of the relative proportion of the various accidents of labor occurring to any private practitioner from the proportion to his own obstetric cases. These are the cases to which the physician is summoned by the midwives and women attendants, while the normal and uncomplicated cases attended by them are not taken into account.

From the reports of the cases it will be observed that the rate of mortality to the mothers has been large, as contrasted with modern medical journal and medical society reports, these latter usually showing but a small percentage of maternal mortality; though text-book authorities represent a proportion of from one in two to one in four and a-half. (Churchill.) Cazeaux says one-half the women are lost.

The foregoing cases show a mortality of seven in sixteen, or nearly one in two.

Of these, in ten the convulsions preceded the labor, in one at third month, and in four at seventh, of whom two died; in three, convulsions occurred during labor; in three, convulsions occurred at termination of labor. Of the first ten, five mothers died; of the second three, one mother died; of the third three, one mother died.

Cazeaux says, "Convulsions are more dangerous at commencement of travail than when not manifested till dilatation of parts is so advanced as render spontaneous or artificial termination of labor both possible and easy; also, that they are more dangerous at an early period of gestation, because complete obliteration of orifice and hardness and length of cervix make depletion of uterus difficult—after delivery less unfavorable. As regards these cases, one had a convulsion at about third month, recovering from it on bleeding, and subsequently from consecutive partial paralysis, and went to full time without further accident; and of the four in which they occurred before labor at seventh month, two went to full time without further accident.

Of the three cases occurring at an advanced stage of labor, and regarded as reflex, one died subsequently of peritonitis. Her urine was albuminous. The other two recovered so promptly that no examination of the urine was made. All three cases were promptly terminated by forceps, two while unconscious. The other was a breech presentation of a large child, and forceps was applied to after-coming head. The children were all living. One other case, after having recovered from the eclampsia and its immediate sequences, died afterwards of peritonitis. Dr. Churchill observes: "It is remarkable and not easily explicable that after the convulsions have ceased and labor is over there is a great tendency to abdominal inflammation. . . . Denman was the first, I believe, to point out this fact, which Dr. Collins and others have observed."

Of the three post-partum cases, two were distinctly apoplectiform in stout, plethoric women, and were promptly relieved by free venesection. The other case was of a spare, delicate woman, and the convulsions continued till her death. One of two who recovered, it has been noted, subsequently died, as was supposed, in an apoplectic fit.

Some writers have observed an apparent atmospheric influence in producing the disease, so that it assumes the character of an epidemic. (Duges.) As pertinent to this we may note that cases nine, ten, eleven occurred between November 5th and January 3d of same year, or within less than two months. All were fatal to mother and child, all with albuminuria. It will be noticed that this was at the cold season of the year, when those afflicted with disorders of the kidneys would be likely to suffer aggravations from suppressions of the cutaneous exhalations and excretions; and ten of the sixteen occurred from October to February; three more in May, of which two were reflex; and but three of the whole number in the summer months, all of which last recovered. These facts would certainly seem to corroborate the opinion of an atmospheric influence in precipitating the explosion in those otherwise predisposed to the accident by vaso-renal changes and nervous excitability.

Of the sixteen cases only five, or less than one-third, were in first labors, in this particular showing as great a variance from the general experience and belief as in some other respects, but corroborating the statement of Dr. Ramsbotham, "that women with large families are equally or more liable to be assailed;" which statement, however, Dr. Churchill says, "is not borne out by numerical investigation, for of thirty-six cases related by Dr. Merriman, twenty-eight were with first children, and of Drs. Johnston's and Sinclair's sixty-three cases, forty-nine were primiparæ."

Of the sixteen cases, in six the children were lost; in two cases, however, the mother dying undelivered, so that there were in reality but four still-births. Dr. Merriman reported, of fifty-one cases, the child still-born in thirty-four or sixty-six, two-thirds per cent.

Counting the whole number lost would represent nearly eight per cent. of the whole number of still-births, in my practice, from this cause. But as the stlll-births in puerperal eclampsia by no means represent the total of still-births due directly to vaso-renal changes in the mother, the total of still-births from these causes would represent a much larger proportion—perhaps double. The still-births in gestations accompanied with albuminuria not followed by eclampsia, as well as in forms of lithiasis, would largely augment the number.

Dr. Kelley, in the paper previously referred to, remarks: "It may be permissible to speculate upon the possibility of these conditions, which the fœtal fluids would naturally share with the maternal blood, affording a clue to the etiology of some of those obscure cases of intra-uterine deformities and disease, as well as of congenital cardiac lesions and adherent placenta depending upon plastic and inflammatory changes of the serous and enveloping membranes of the fœtus; also as to the influence of these inflammatory conditions in producing fatty and other degenerative changes in the placenta, with consequent results of early abortion, miscarriage, and still-born and putrid fœtuses."

The still-born and putrid fœtuses, from fatty and other degenerative changes in the placenta, would very largely increase the proportion of still-births to the total, even in those cases where syphilis as a cause must be excluded, and the consideration of this type would be an interesting subject of itself.

I have made reference to cases of still-births in albuminuric cases unconnected with eclampsia. I will illustrate by details of the histories of several comparatively recent cases, as examples to show how in all probability the two large factors, syphilis and ergot, have been ignorantly and unjustly charged with the responsibility, when the true cause was not apparent.

Mrs. R.. a stout, robust-looking Irish woman, the mother of seven healthy children born without accidents, and the subject of no miscarriages, came under my care early in March, expecting her confinement early in April. Her history was that she had some chronic urinary trouble, also had been the subject of a chronic bronchitis and frequent attacks of asthma (emphysema ?) ; had a wheezy inspiration at this time. Her children had diphtheria some weeks previously, and she herself had sore throat and fever. On use of balsams, both the pulmonary and the renal trouble was bettered, probably the former also by the action on the kidneys. On March 14th she did her usual day's washing (by which she supported her family) ; complained of her back that night, thought she had hurt herself by lifting a tub. The next day, had intense pain in the back, hadache, vomiting, and unappeasable thirst. Temperature sub-normal, urine scanty, no albumen detected in it. No improvement from day to day, and on evening of 19th some indications of approaching labor ; no water passed since yesterpay, and none in bladder. Morning of 20th membranes ruptured. Waters dribbled away all day, os gradually dilating, and the next day the os had become sufficiently dilated to apply forceps, and deliver a still-born putrid fœtus. No urine had been passed, none secreted for thirty hours preceding termination of labor. Had felt no motion of child since four days previous. Vomiting and headache ceased on delivery, but there was entire suppression of urine, and the woman went into a stupor and died.

Mrs. D., a young woman, æt. about 28 years, in her fourth gestation, came under my care November 14. She regarded herself at about seventh month. This patient had consulted different gynæcologists and spent much of her substance, since the birth of her youngest child, four years of age, for the relief of a burning sensation in her back, which had been attributed to some uterine or ovarian trouble. She was at this time suffering with an aggravated attack of this pain, and with digestive troubles, vomiting of her food, headache, and a constant pain under the left shoulder. Temperature sub-normal, 97°. Examination of urine showed not only heavy deposits of phosphates, but a large amount of albumen. Under Hunyadi Janos water, acetas potassæ, etc., albumen disappeared, vomiting ceased, appetite returned, the pain vanished, temperature rose to normal, and a general improvement ensued, excepting at times the burning sensation in the back and most of the time heavy phosphatic deposits.

Nov. 30th.—She had a severe rigor in the night, shaking for an hour. I arrived just as the chill was leaving her. Her temperature registered 106.°2. Sweating was already commencing. In half an hour temperature had fallen two degrees, and at 8 A.M. it was down to 101°. I commenced giving her quinine, of which, however, she took but one dose (4 grs.), as labor pains came on very soon, and at 10 A.M., on my arrival, I was just in time to receive the child, which was born dead, but not decomposed. Very likely had been dead since the chill and the great rise of temperature in the night. Temperature at this time was again up to 103°, at 1 P.M. was down to 101°, and next day at normal, with no subsequent rise, and uninterrupted recovery on the part of the patient.

Here was another case in which, had ergot been given, it would perhaps been credited with the death of the fœtus. I will give the history of one more case.

Mrs. O., French Canadian, æt. 38 years. Has had ten children at full time, and three abortions; health always good up to this pregnancy, now, as she believes, six or seven months advanced. Came under my care February 5th, complaining of vomiting, epigastric pains, aching in back, insomnia, and general distress. Temperature sub-normal, 97°; urine on boiling becomes almost solid. On use of Hunyadi water and diuretics vomiting ceased, but no improvement in other respects.

12th—Patient feeling much worse, very little urine passed, not more than four ounces a day, and that passed with difficulty and presenting no improvement. Had a fainting fit last night and slight epistaxis, no headache, heart beat feeble, and pulse almost imperceptible and very quick.

22nd.—Has grown much worse the past week. No motion of child for a week past. Woman very large, too much so to be caused entirely by six months' gestation. Cannot detect fœtal heart or auscultation. Abdomen evidently, from its size and feeling and difficulty of detecting outlines of uterus, containing large amount of fluid. Ankles very much swollen and labia immensely distended with infiltration, making examination per vaginam impossible. Punctured the labia in a number of places with a needle, from which there was a constant flow of water all day.

23d.—Swelling of labia and abdomen much reduced. Can now succeed in reaching os uteri with finger, and in passing a sound guided by the finger; a large amount of water passed off during the day.

24th.—Again passed the sound, and labor pains came on during the day, and, about 3 P. M., a dead and putrid fœtus of about six and one-half months' development came away.

25th.—Abdomen still very much swollen, but water passing freely and urine shows but little albumen.

29th.—Enlargement all gone. Urine shows but a trace of albumen, and patient doing well, and from this time made a complete recovery.

In conclusion, then, it appears—

That only a small portion of the subjects of albuminuria during pregnancy become the subjects of eclampsia.

That eclampsia may appear in those in whose urine albumen has not been detected, and who have presented none of the usual general symtoms leading to a suspicion of its existence, which cases are probably of a reflex character, and that therefore some other element or condition is necessary for the production of convulsions besides the condition of albuminuria; and which, until we are better informed as to what it consists in, we may call it an irritable or explosive condition of the nervous system.

That the subjects of albuminuria are very liable to premature labors, and also to still-births, and that in those cases the fœtus may present, in commencing or advanced decomposition, evidences of a post-mortem retention in utero for some time; that this ante-partum death of fœtus probably depends upon a state of toxæmia in the mother, but even, in some cases, upon secondary changes in the placenta and interference with the fœtal circulation, and that the parturient may incur additional sufferings and dangers from the death and decomposition of the fœtus.

That the apoplectiform variety may occur in either an albuminuric or non-albuminuric parturient, the typical case being a stout, healthy-looking, full-blooded woman, in whom, during labor, especially in the second stage, with the powerful muscular efforts of the patient, the face becomes purple, and the veins of the head and neck turgid, and distended to a degree apparently ready to burst, and in whom it is apparent that the brain is equally turgid with blood, and quite conceivable that these distended vessels may in some spot have yielded, and occasioned more or less of an effusion; or perhaps only a distention to rupture of some of the fibres of the vessels, preventing a ready contraction, and in whom, therefore, more or less of a congestive state may remain for some time. In my experience these cases have usually had the convulsions after completion of the labor, and perhaps we may find in this explanation the reason also for this delayed outbreak. These are the cases in which free venesection has an almost uniformly speedy and favorable effect.

On the other hand, in the typical-appearing albuminuric, with pale and pasty complexion, with anasarcous ankles and tumefied tissues under the eyes, etc., we have none of these appearances of active cerebral congestion. And yet, as Marshall Hall has shown us how similar may be the symptoms arising from cerebral congestion, and from excessive losses of blood, is it not possible to find in both these classes, the florid and robust looking, and the anæmic and unhealthy looking, so very different conditions leading by different ways to similar final results? In the one, the pressure of an active congestion or effusion of healthy, red blood; in the other, a similar pressure from an effusion of its watery part, as exhibited in the cellular tissue of the legs, the face, and even in the abdominal cavity.

ABSTRACTS.

By Dr. E. S. McKee, Cincinnati, O.

The Relation of Social Life to Surgical Disease was the subject of the President of the American Surgical Association in his address. This gentlemen, Dr. D. Hayes Agnew, of Philadelphia, said in brief as follows: The more advanced becomes a civilization the more complex becomes the problem which surrounds it through those notable changes which occur in the life and manner of the people and also in their physical and mental diseases. In the victorious march of civilization thousands of victims perish beneath her chariot wheels. There seems to be an eternal conflict between good and evil. The conventionalities which govern our living are more exacting in their tyranny than any other. It dictates the education, the manners, the walk, the dress, the forms of speech, in fact the whole being. The conflict being between taste and reason, the victory will be on the side of taste. In nothing is this more forcibly displayed than in dress. I have no special taste for exploring bizarre museums and indeed without a key to interpret the curious and ingenious mechanism for clothing the form divine, such an exploration would be like an archæologist attempting Egyptology ignorant of cuneiform inscriptions. Were these processes of mutilation and, did the body consist of a mere mass of protoplasm, capable under certain stimuli, of assuming certain normally protean shapes, the subject might be passed over with the feeling of a naturalist, but this is not so. These violations of the laws of structure cause serious penal influences, inflections which if they terminated with the original offender might be borne, but they project their baneful consequences on their successors and become serious subjects for criticism.

For some time the profession has been discussing the causation of nasal and post-nasal catarrh, with its accompanying auditory defects, the growing frequency of which does not escape general observation, I can not recall an instance in which I have met with a case in the Society of Friends, the Dinkards or Mennonites. May not the headdress of that people be accepted as explanation for their exemption. The modern bonnet is a mere shadow of its ancestor, and offers no protection at all to the head.

Muscular restraint is followed by a legion of physical imperfections, as weak ankles, narrow or contracted chests, round shoulders, projecting scapulæ, and lateral curvature of the spine. The confinement of the flexor and extensor muscles by boots tightly laced up the ankles of the little ones prevents the free play of movement which reacts so favorably on the elements of an articulation and when the time arrives for standing or for walking the muscles are unequal to the firm support of the joint. Often, too, as a later result, we have what is termed flat foot. In bow-leg irons are applied too often. It is well known that if the leg is given manual force, systematically applied, two or three times a day, they will gradually assume their typical form.

Lateral curvatures of the spine depend upon causes both central and peripheral, yet in no small number the deformity is attributable to influence of a social nature. Whatever destroys the muscular equipoise changes the centre of gravity and develops primary and compensating curves. Children plodding along to school with a miniature library of books suspended from one shoulder, with the additional factor upon their arrival of a badly-arranged light, compelling them to assume a lateral inclination of the body, have all the necessary conditions for perpetuating the lateral deformity. In most educational institutions provisions are made for physical culture; while these are in a measure antidotal to the evils complained of, yet they do not answer in the stead of the free unstudied romp in the open air untrammelled by the hard rules of calisthenics.

Bodily constriction produces many of the evils of visceral displacement. The constriction of the waist operates injuriously on both the supra and infra-diaphragmatic organs. As the initial seat of tuberculosis is located at the upper part of the lungs may not the inordinate work entailed on these parts by constriction, have some part in hastening such deposits in the female where the predisposition exists? This pressure cannot fail to interfere with the descent of the diaphragm with the functions of the gall-bladder and duodenum, and has no small influence in favoring the formation of biliary calculi.

Late marriages constitute an evil the penal inflictions of which involve both sexes alike.

The shoe is so important to the well-being of the foot, and hence to the body, that it is of sufficient magnitude to demand our serious consideration. Whatever impairs the usefulness of the feet either for support or locomotion becomes a calamity. High heels and contracted toes are a fruitful source of tired ankles, corns, bunions, ingrowing nails, etc.

Renal disorders, as crystalline deposits and calculi, are largely the result of our American way of rapid living. Hasty eating, and lack of bodily exercise allow the tissue waste to accumulate in the blood; the internal eliminating organs, of which the kidneys are chief, are overtaxed, and mal-assimilation and the excretions produce urates and oxalates, often resulting in the formation of calculi.

May we ever hope for a time when the race will realize that these bodies which God has so highly honored by his own incarnation, are sacred temples to be kept in harmony with recognized physical laws, and not to be made the instruments of mere gratification.

Abstract of an Address on Plastic Operations and their Place in Surgery.—Delivered at the Inaugural Meeting of the Midland Medical Society, held in Birmingham, November 14, 1888. By Sir William MacCormac, F.R.C.S. surgeon to St. Thomas's Hospital.—Sir William MacCormac commenced his address by defining plastic surgery as that branch of the art which has as its object the relief of deformity or the restoration of a lost function by transplantation of healthy tissue obtained from the same individual or another, as well as to replace parts destroyed by accident or disease.

He quoted Dieffenbach's statement that plastic surgery is one of the highest achievements of the art, as an apology, if one were needed, for his choice of the subject, and mentioned the names of the many famous surgeons who had devoted their best attention to the matter.

The history of the art could be traced back to remote ages, rhinoplasty having been practiced by the ancient Egyptian priests, according to Galen, and as a hereditary monopoly by the "Kooma" caste in India from the earliest times.

In Europe, Tagliacozzi, of Bologna, in the sixteenth century, was best known as having placed the art on a scientific basis, though it appeared that rhinoplasty had been practiced in Europe with success as early as the fourteenth century.

In Tagliacozzi's method, known as the "Italian," the new nose is formed from a flap of skin taken from over the biceps, the arm being fixed to the head during the process of union by a special apparatus; and this method appears to have been the only one known or practiced in Europe till the end of the eighteenth century; then the operation now known as "Indian rhinoplasty" was introduced, in which the new nose is obtained by the dissection of a flap of skin from the forehead, the flap being turned down and fixed in position over some supporting substance to prevent it from falling in.

The first operation performed in England was in 1803, the "Indian" method being employed unsuccessfully. But in 1814 Carpue employed the same method with perfect success in two cases, and since then rhinoplasty by various methods and plastic surgery in general has been practised and developed by many surgeons, so that hardly any portion of the external structure of the body remains to which the art has not been applied.

External deformity naturally affords the greatest scope for the practice of plastic surgery, but as success in this seems to have almost attained its limits, attention has for some time been directed to internal structures, and though certain complicated tissues, such as muscles, arteries and veins are as yet beyond the reach of the surgeon, successful operations for the repair of divided bones, tendons, and nerves have become comparatively common.

Sir William MacCormac then referred to the various ways of obtaining the new tissue required, by formation of flaps of healthy skin or the removal of portions of deeper structures from the neighborhood, or from distant parts of the body of the same individual or of another (as, for instance, from freshly amputated limbs) or even from animals, and quoted cases showing the relative advantages of different methods in the treatment of various deformities.

The methods of operation were next discussed, stress being laid upon the points requiring special attention in order to ensure success. Speaking generally, the two most important matters were gentleness in handling the tissue to be transplanted, perfect fixation in an easy position, and the maintenance of aseptic conditions during the process of union.

In "flap" operations the flap might be obtained from the neighboring skin, and simply twisted into position, or by the formation of either a tongue-shaped flap or bridge of tissue elsewhere. In either case two methods of implantation were open to the operator, namely, (1) to implant the flap immediately upon the freshened surface prepared to receive it and (2) to defer implantation for a time, to allow the flap to become thick and vascular and covered with granulation upon its under surface. The latter plan was, in the opinion of the lecturer, by far the better one; indeed, he considered that the introduction of the method of operation with granulating flaps was one of the greatest importance in the development of successful plastic surgery, and it was the method invariably employed by himself, except in certain cases (for example, restoration of the lip or eyelid). The flap it was desired to employ was first marked out, the most convenient position on the body being selected and the best shape and direction of the flap carefully planned. It was now separated from the subjacent fascia, leaving it attached at both extremities. Presently it became very thick and vascular, and might be safely separated at one extremity, the other remaining undivided till the flap had firmly united in its new position. The time for its final separation varied in different cases and circumstances, but a delay of from ten to fourteen days or rather longer was usually advisable, and during this period the flap was surrounded by aseptic dressings, and in the first stage a layer of protective oil-silk was placed between it and the surface from which it was detached to prevent it from reuniting.

In the process of freshening a surface for implantation, the chief point was to thoroughly divide or excise all scar tissue. Where "bridge flaps" were used and at once applied to the gap made in the scar, it was usually best, after the needful interval, to separate one end first, a second period of from two to three weeks being allowed to elapse before finally separating the flap from its original connection.

In some cases where there might be a doubt as to the complete vitality of the transplant, it would be better even after this interval to effect a gradual division of the "pedicle." This was accomplished by the use of an India-rubber band to partially obstruct the circulation a day or two previous to the section of the pedicle, or by dividing it in sections.

Certain special classes of cases were then alluded to, such as those demanding repair of mucous membrane; and of these, cases of defects in the buccal cavity and extroversion of bladder were taken as instances. The use of skin flaps was frequently resorted to, and a difficulty was formerly encountered when inversion of the flaps was considered necessary by the growth of hair, leading in bladder cases especially to phosphatic deposits. This difficulty was now overcome by fixing the raw or granulating surface of the flaps inwards, in which cases a smooth layer of epithelium, without any of the characteristic structure of skin, was gradually formed on the internal surface of the flap.

In special reference to the case of extroversion of bladder, it was recommended that a urethra should be formed first, and the bladder then closed by successive operations from below upwards. Trendelenburg's method of approximating the divergent pubic bones after section of the posterior sacro-iliac ligaments was also mentioned.

Finally, the operative treatment for repair of nerves was alluded to, the points chiefly considered being the various methods of repair to be employed in different cases, of which the following were described, the choice of method being decided by the special circumstances of each individual case:

1. Transplantation into the gap of a piece of nerve taken from the same or another species of animal.
2. Uniting the peripheral end of the injured nerve to an adjacent uninjured nerve.
3. Cross union of two different adjacent nerves cut at different levels where union of the two portions of the same nerve was impossible.
4. Formation of a single or double pedunculated nerve-flap to bridge over the interval between the ends.
5. Encasing the two ends of the divided nerve in a bone drain which served as a means of fixation and also as a conducting medium for new nerve-fibres.
6. Sub-periosteal resection of a portion of the long bones of a limb to allow approximation and suture of the nerve-ends.

Return of sensation was obtained in favorable cases much earlier than formerly was thought possible, instances being given in which it had commenced after a very brief interval; the paths by which the impulses travelled being obviously along the old nerve-fibres in these cases, though for the most part, at any rate in case of long-standing separation of the nerve-ends, a development of new fibres was necessary for a successful result.

The lecture was illustrated by the presence of several patients successfully operated upon and by the exhibition of a number of photographs and drawings of other cases.

REPRESSION OF MENSTRUATION AS A CURATIVE AGENT IN GYNÆCOLOGY.—In the *American Journal of Obstetrics* Gehrung contributes a very interesting paper on the above subject. He believes the menstrual flow in modern women to be greatly in excess of the actual want, even when confined within ordinary limits, because of increasing engorgement and decreasing resistance, due to the effects of civilization, the effects of repeated menstruations, of pregnancy and labor, and to inherited habit.

In anæmic women this loss is apt to be greater and even more injurious than in the robust. He describes these cases, where the woman's whole existence is spent in making blood enough to be again uselessly spilt at the next menstrual period. Treatment affords temporary relief, which is lost at each recurrence of menstruation.

For this condition he recommends the tampon. He uses absorbent cotton made into numerous little balls, squeezed dry from a one to two per cent. alum solution, and packed around and upon the cervix uteri through a speculum (Sims' or valvular). The tampon is packed in solidly. It is left for forty-eight hours, unless bleeding occurs sooner, when it is renewed.

This lessens the loss of blood and the duration of menstruation. Rest is desirable, though not essential. He applies the tampon on the first appearance of menstruation. He very judiciously suggests that while intelligent women appreciate the value of the procedure, with the lower class it is best not to reason about it.

After putting this procedure into practice in very severe cases, he reports unquestionable success and no cause to regret the treatment. In nearly every case the patients have been elated with the results.

ON THE TREATMENT OF HÆMORRHAGES BY REVULSION OVER THE HEPATIC REGION.—The *Bul. Gen. Ther.*, July 30th, contains an interesting article by Dr. L. H. Petit, in which this writer insists on the rôle of the liver in the pathogeny of hæmorrhages and the benefits of revulsion over that organ. He reports seventeen cases, mostly examples of hæmorrhages from hæmorrhoids, from the nares (alarming epistaxis), from the lungs (hæmoptysis in the phthisical), in which the application of a large fly-blister over the liver promptly and effectually arrested the hæmorrhages. Many of these cases came under the observation of Professor Verneuil, occurring in his service; six of them were borrowed from Dr. Alexander Harkin's report in the *Lancet*, Oct. 30, 1886.

Dr. Harkin, it will be remembered, treated his cases of epistaxis, bleeding piles, etc., by the application of a blister, eight inches by four inches, for eight hours over the region of the liver, to be followed by cotton-wool dressing. The *rationale* of this treatment is thus set forth: "The frequent occurrence of epistaxis in youth is evidently due to the excitement and hyperæmic condition of the liver and digestive organs during the period of active growth and the constant demands on its functional activity. The liver at this stage closely approximates to the condition in after life which is the casual factor in the development of piles, and as such is equally amenable to treatment in accordance with etiological principles; the derivative that cures the hæmorrhoidal flux as certainly puts an end to the epistaxis, the outcome of hepatic congestion." Dr. Petit takes the same view, and remarks that physicians and surgeons, from Galen downward, have been in the habit of treating rebellious epistaxis by the application of cups to the region of the liver when the blood flowed from the right nostril, and over the spleen when it flowed from the left; this practice, however, was wholly empirical, no reason being assigned for it. To Verneuil belongs the credit of systematizing this mode of treatment (he makes use sometimes of large fly-blisters, sometimes of cold douches, over the hepatic region), and of showing the intimate relationship which exists between the hepatic circulation and that of the mucous membranes of the entire alimentary tract, especially of the hæmorrhoidal vessels of the rectum. Verneuil also calls attention to the frequent coincidence between hepatic congestions, whether occurring in connection with the latent and benign affections of the liver, or in cirrhosis and epistaxis, or bleeding piles, the latter yielding when the hepatic affection is relieved.

In confirmation of this position, an interesting case is reported which occurred in the practice of Dr. Tachard, of Colombes (cirrhosis, epistaxis, arrest of the hæmorrhage by a blister); another occurring in the service of M. Reclus (rebellious bleedings from mouth and nose; cure effected by a blister over the right hypochondrium); a third communicated by Dr. Salles, of Boulogne on the Seine, in which gingival and nasal hæmorrhages, accompanying cirrhosis of the liver, were kept in abeyance by like means. Even grave hæmoptyses, occurring in phthisis, have proved amenable to the same treatment.

Dr. Petit terminates his paper with the following conclusions:

"Divers spontaneous hæmorrhages, medical or surgical, supervene in persons who are subjects of a chronic hepatic affection.

"A great many facts having demonstrated that there exists a close relation between spontaneous hæmorrhages and chronic affections of the liver, it seems logical to treat the hæmorrhage by revulsion, practiced over the region of the liver. This treatment has determined the final arrest of the blood-flow in the majority of cases.

"Whenever, then, the practitioner is in the presence of a patient suffering from spontaneous hæmorrhage, he will find an indication to examine the state of the liver, and if this organ does not present its normal characters, to apply a blister over the hepatic region."

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CLINICAL RECORDS.

REPORTED BY E. GAILLARD MASON, M.D., formerly House Surgeon, St. Mary's General Hospital, Brooklyn.

These cases occurred in the service of Geo. R. Fowler, M.D., Visiting Surgeon, St. Mary's General Hospital, Brooklyn.

Case I.—Irreducible Oblique Inguinal Hernia: Modified McBurney's Operation: Cure.

Jas. McD., æt. 41 years, married, Ireland, laborer. Admitted February 16, 1888.

This man has had an oblique inguinal hernia upon the left side for the past two years. Could always be easily reduced. Has been wearing a truss for the past six months, but yesterday, while putting away coal, he neglected to wear it, the hernia came down and he was unable to reduce it. Vomited slightly during the evening.

February 17th. Vomited slightly again last night, but it was not stercoraceous, slight difficulty in passing urine. Temperature 99½° F. Pulse, 86. After moderate efforts at reduction had failed, patient consented to an operation.

Operation—Dr. Fowler. Patient anæsthetized. Integument above, and for some distance around the inguinal canal cleanly shaved and thoroughly washed with a solution of mercuric biniodide, 1–6000, and towels wrung out in a solution of the same strength were placed over the surrounding parts. An incision, corresponding in direction to the inguinal canal, was then made extending from a point slightly above the internal ring to a point slightly below the external ring. The tissues down to the sac were carefully divided, and the sac opened. when a small amount of yellowish fluid escaped. The circulation in the gut had almost ceased, the seat of constriction, which was at the internal ring, was carefully divided upon the finger, and the gut was continuously irrigated with a hot solution of mercuric biniodide, 1–6000, until the circulation was re-established. The gut and sac were so adherent at one place that separation was difficult. In the act of separating them, the peritoneum was stripped from the gut over a space larger than a silver dollar, exposing seven or eight bleeding points, the hæmorrhage from which was arrested by approximating with fine silk sutures the edges of the rents in the muscular coat, the result of the separation of the hernial sac from the gut. The gut was then returned to the abdomen, the neck of the sac transfixed with a double ligature of stout silk which was tied each way, leaving long ends, and the sac was removed. Then the respective ends of the ligatures were carried through a fold of transversalis fascia, stitching the neck of the sac in the internal ring, thence through the entire thickness of the anterior abdominal wall on either side of the interior ring and tightly tied, thus completely occluding the interior ring. Then the respective tissues on each side of the inguinal canal down to the transversalis facia, were sutured to the integument of the same side with silk.

The inguinal canal, which was allowed to remain open so as to heal by granulation, thus forming a firm cicatricial plug ; was then plugged with iodoformized gauze and dressed with same and paper wool.

7 P.M. Patient comfortable. Temperature, $100^{2}/_{5}$° F., pulse, 120. During next 24 hours was only allowed to have by the mouth a teaspoonful of hot water every half hour.

February 18th. Urine was withdrawn with catheter. Temperature, $100^{2}/_{5}$°, pulse, 110. Was given enema peptonized milk ℥iii, whiskey, ℥i, at 12 M., and 6 P.M.

February 19th. Passed urine without trouble. Temperature, 100–$100^{2}/_{5}$°, pulse 110–116. Was given enema peptonized milk ℥iii, whiskey, ℥i three times daily.

February 20th. Temperature, 101–$101^{3}/_{5}$, pulse, 106–108. Enemata same as yesterday ; also by mouth peptonized milk, ℥i, whiskey, ʒi, every hour. Dressing removed to-day, wound looking well, dressed as at first.

February 21st. Nutrient enemata discontinued. Allowed milk diluted with lime water, beef tea and gruel as much as desired. Temperature, 100°, pulse, 120.

February 22d. Bowels moved by an enema soap suds and warm water. Temperature, 101° F., pulse, 108.

February 25th. Dressed again to day, healthy granulations springing from sides and bottom of wound. Temperature, 99⅖° F., pulse, 94.

March 2d. Dressed twice since last note. Temperature, 98½°–99⅖°, pulse, 68–94. Suture removed from wound to-day.

March 12th. Since last note temperature has ranged from 98½°–99°, pulse 60–80. Has been dressed every other day by filling the wound with powdered napthaline and covering this with iodoformized gauze. Nice healthy granulations are filling up the wound.

March 31st. Granulations even with surface, dressed daily with Ung. zinc. oxid.

April 10th. Wound is entirely healed. Two or three days after this, patient was allowed to leave his bed. A hard firm mass of granulation tissue blocked up the canal making it impossible to have a recurrence of the hernia. He remained in the hospital under observation until April 17th, when he was discharged cured.

Case II.—Pyothorax—Estlander's Operation: Recovery.

M. B., æt. 8 years, U. S., schoolboy.

Admitted to St. Mary's General Hospital, Brooklyn, March 16, 1888.

On January 11, 1888, this patient had a severe attack of lobar pneumonia, with accompanying pleurisy, confined to the left side. Has been in his bed until a few days ago. During the latter part of his illness a pyothorax developed. A week ago a bulging of the chest wall was observed in the fifth intercostal space slightly anterior to the axillary line. This has become larger and now the integument covering it presents the same appearance as that covering an abscess. Examination reveals the left pleural cavity nearly filled with fluid. Introduction of an exploring needle reveals pus. Patient is very anæmic, general condition bad, family history good, temperature, 101° F.–102° F., in evening, pulse, 140.

March 19th. A subperiosteal resection of an inch and a half of the seventh rib in axillary line on left side was performed to-day by Dr. Fowler, and more than a pint of pus liberated. The pleural cavity was then washed out with a warm solution of hydronapthal, 1–5000, until perfectly clear fluid returned, and a large rubber drainage tube four inches long was placed in the cavity, the end being secured at the opening, thus allowing free drainage.

March 20th. Temperature, 99½° F., pulse, 116. Patient feeling much better and is very much brighter. Ordered to take syr. ferri iodidi M. xxv. three times daily, and allowed plenty of nourishing food. The House Surgeon was directed to wash out the cavity thoroughly each day with a warm solution of hydronapthal, 1–5000, and to shorten the drainage tube slightly each time.

March 31st. Drainage tube has been shortened until it reaches just within the pleural cavity. Discharge greatly diminished in amount. Patient has no elevation of temperature and his general condition is very much improved.

April 15th. Discharge has nearly ceased.

May 10th. Discharge has entirely ceased, drainage tube removed. Since last note pleural cavity has been washed out only every other day. Patient has been daily improving in flesh and strength and has been playing on the lawn every nice day.

May 20th. Wound has entirely healed.

June 7th. Although the patient has not required any treatment he was not discharged from hospital until to-day. He is perfectly well, a new formation of bone has taken the place of the resected portion of rib, and a careful examination fails to reveal the presence of any fluid in the pleural cavity, the normal respiratory sounds being found over the entire chest.

Case III.—Carcinoma of Rectum. Excision. Recovery.

J. L., female, æt. 58 years, married, German, housekeeper.

Admitted to St. Mary's General Hospital, Brooklyn, February 27, 1888.

About a year ago patient first experienced pain during defecation, and at the same time felt some hard lumps in the rectum. The pain has been steadily increasing in severity, and from time to time she passed blood at stool. During the past three weeks the pain has been very severe, and she has been passing much blood and what she calls "slimy matter."

She is somewhat cachectic; appetite poor; bowels, as a rule, constipated; family history negative.

Examination shows the anterior rectal and posterior vaginal walls to be completely infiltrated and covered with hard, nodular masses as high up as the index finger reaches; the posterior rectal wall in the same condition, but the disease not extending so high up by one inch. She was given suppository of opium gr. j. ext. bellad. gr. 1/4 each night, which made her quite comfortable.

March 1st. Operation—Dr. Fowler. The lower bowel had previously been cleared out by an enema. Patient anæsthetized, placed in lithotomy position; perineum shaved, and then scrubbed with solution of mercuric biniodide, 1-6000. An elliptical incision, including the posterior vaginal wall, was made around the anus. With the finger in the rectum, the rectum, including the posterior vaginal wall, was dissected away from the surrounding tissues with scalpel and scissors for the distance of fully four inches, blood-vessels being tied as soon as they were divided. Then a stout piece of silk was carried through the rectum as high up as the operator could reach, to serve as a means of traction. Four inches of the rectum, including the posterior vaginal wall, were then removed by cross section below the point of insertion of the silk. The stump of the gut was then sutured to the Douglas cul de sac immediately behind the cervix uteri with silken sutures, and the remaining gap was then closed by bringing the integumentary margins of the same to the edges of the mucous membrane lining the vagina. The wound was dressed with bismuth subnitrate and paper wool, which were held in place by a T bandage.

As the operation was long and much blood was lost, the patient was removed from the table in great shock, temperature sub-normal and radial pulse imperceptible. Stimulants were freely used, and in four or five hours she was commencing to recover nicely.

For the next nine days patient was stimulated moderately and kept upon a liquid but a nourishing diet. The wound was cleaned three times daily with a solution of hydro-napthol 1-4000, and dressed with iodoform. Incontinence of fæces, which would come down and cake in the space left after removal of gut. Temperature reached $102\frac{3}{5}$° F. on second day, and $102\frac{1}{5}$° F. on fourth day. Her general condition improved slowly but steadily.

After this the sutures commenced sloughing, and the wound was dressed twice daily with napthaline and oakum, the temperature rarely going above 99° F. The wound did well; she improved steadily, and was able to walk out of the hospital April 8th, less than six weeks after the operation, having, however, little or no control over her bowel. She paid the hospital a visit three months after her discharge, when she looked fat and well, was in most cheerful spirits, and was highly delighted with the result of the operation. She had an almost normal control of her bowel, and there was at that time no indication of a return of the disease. The stump of the rectum, from cicatricial contraction, had gradually approximated itself to the normal site of the original anus.

Case IV.—A Case in which the Instillation of Atropine into the Eye just Before an Accident Obscured the Diagnosis.

W. C., æt. 33 years, single, U. S.

Admitted to St. Mary's Hospital, Brooklyn, January 9, 1888.

To-day patient fell from the platform of an elevated railroad station, a distance of about twenty feet, to the pavement below; his fall, however, was broken by the limbs of some trees. He was given several hypodermic injections of whiskey by the ambulance surgeon and immediately brought to the hospital. When admitted a fracture of the inferior maxilla, a lacerated wound of the lower lip and an ecchymosis under the left eye were noted. He was suffering from shock; pulse very weak, respirations much exaggerated, approaching those of a stertorous type. He was unconscious, but could be slightly aroused by great effort. When so aroused, however, he could not answer questions intelligently. There was some escape of blood from the nose; no bleeding or escape of cerebro-spinal fluid from the ear; no wound of scalp, but the left pupil was very much *dilated*.

Upon these facts a strong suspicion of a fracture of the base of the skull was entertained, and a grave prognosis accordingly given. After the external wounds and fractured jaw had been properly cared for, his mother gave the information that he was suffering from an iritis of the left eye, and by the advice of a physician had been using a solution of atropine.

The diagnosis and prognosis were thereupon revised. Patient regained consciousness in seven hours, but was very much prostrated. Was given stimulants *pro re nata*. In a few days he left his bed and was able to go around, suffering only from the inconvenience of a broken jaw.

THE MEANS BY WHICH THE SEMEN ENTERS THE CERVICAL CANAL DURING COITUS. By Frank H. Brickell, M.D., Visiting Physician, Charity Hospital, 224 Reytanise Street, New Orleans, La., October, 19, 1888.

There are numerous theories extant concerning the method involved in the first and all important step of conception. It is supposed by some that the orifice of the male urethra impinged on the external os, and that the semen is injected directly into the uterine cavity. The position of the cervix, as it rests in the vagina, offers a loud negation to such a conceit. The *modus operandi* is also attributed to the ciliary action of the epithelium, but when we bear in mind that impregnation not infrequently occurs outside of the uterine cavity, and that the motion of the ciliary epithelium lining the fallopean tubes is from the ovaries to the uterus, such a declaration fails at once to win even the position of a tenable hypothesis. Lott states that an inherent power of locomotion resides within the spermatozoa, and that by virtue of this quality, they reach the uterine cavity. That the spermatozoa are capable of motion, independent of any extraneous force, is an indisputable fact; but that they reach the uterine cavity by means of such independent motion, is certainly scarcely more than a plausible theory. Such, then, are the views entertained by many worthy and learned heroes in the ranks of Æsculapius, and they are sacred by reason of their hoariness. But fallacies cannot stand, even though rendered inviolate by age, and if my *confrères* will drink of the waters of the Lethe, and will permit me to tender them the clew of thread that shall lead them from the labyrinth of doubt and speculation into the clear light of fact, I shall feel that I have not seen in vain.

A short time ago, Miss H. L., æt. 19 years, nullipara, presented herself at my clinic, stating that she had been guilty of an amative indiscretion, and that she thought she was "chafed" or otherwise injured. Upon examination I discovered three lively chancroids, situated at different districts of the vulva. They soon responded to treatment, and I concluded to extend my examination into the vaginal tube. Thought and action were one, for I immediately entered my finger for the purpose of palpation, when, much to my surprise, the clitories and nymphæ erected, and contractions of the sphyncter vagina and the entire length of the vaginal tube ensued. The os was rigid when first my finger impinged on it, but suddenly it dilated and my finger passed to fully the depth of an inch. I could feel the cervix alternately contract and relax in rapid rythm. There was an abundant emission from the vulvo-vaginal glands, and the rump was thrown quickly forward and upward, indicating intense sexual ecstacy. A few days subsequent to this examination and experience, the patient returned, and I seized the opportunity to pass a speculum and witness what I had before felt. After introducing the instrument, I dilitated the clitories with my finger and passed rapidly around the cervix a camel's hair pencil, which was soon responded to by an erection of the former organ and the nymphæ, and rapid dilatations and contractions of the os. With each dilatation a plug of viscid mucus was emitted, and with each contraction it was retracted. When I witnessed this, to me, almost wonderful occurrence, fiction became fact; and the first step in the mechanism of conception became apparent. My views may then be thus formulated: The semen is emitted into the vaginal cul-de-sac, and during the period of sexual ecstacy indulged by the woman, the cervical canal dilates, emits a plug of mucus, which becomes impregnated with spermatozoa, and, during the final contraction, recedes into the uterine cavity. Such are my convictions, and such are the facts as I witnessed them; and I now place them before the tribunal of criticism, and patiently await the verdict.

REPORTS ON HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES. Royal Infirmary, Newcastle-upon-Tyne. Gynæcological Cases. Under the care of Dr. Oliver.

Case I.—Absence of Vagina, Uterus, and Ovaries.—A pale and rather undersized young woman, æt. 21 years, was brought to the infirmary, complaining of pain in the hypogastric and lumbar regions. She stated that she had never menstruated. On examination, heart and lungs were found to be healthy, the breasts were not developed, tonsils were absent, and on searching for a vagina, only one small opening was found—that of the *meatus urinarius.* The patient was admitted into the infirmary, and under chloroform a more complete examination was made. The opening already referred to as if in the vagina, led only into the bladder. For a short distance below and around it the mucous membrane was rough and granular. No vagina existed. Dr. Oliver passed his finger into the bladder, but nothing was felt save the wall of that viscus. Another finger was passed into the rectum; this came at once into close and immediate contact with that in the bladder, nothing separating them but the walls of bladder and rectum. As far as the fingers could reach no trace of ovary was felt. The amenorrhœa was thus due to complete absence of ovaries, uterus and vagina.

Case II.—Inperforate Hymen.—A domestic servant, æt. 18 years, was admitted into the infirmary, complaining of amenorrhœa, epigastric pain, and of a swelling in the abdomen. She was healthy looking, had never menstruated, but had had headache, backache, mammary and epigastric pains for some time past; regularly every month; no sickness. Chest: mammæ well developed; lungs healthy; heart-sounds are normal; second is re-duplicated over aortic area. Abdomen: a tumor, globular in shape, occupies two-thirds in middle line; it is very prominent and extends quite two inches above the umbilicus; the tumor is of firm consistence, is elastic and painless to the touch, dull on percussion and not freely movable; it measures 8½ inches longitudinally. Examination *per vaginam:* labia well developed; projecting through them is a tumid mass of soft consistence, covered by a thin, bluish, and somewhat transparent membrane, which is seen to be firmly incorporated with the sides of the vaginal orifice. A small incision was made into this projecting, tense membrane, and immediately there gushed out a stream of thin, black liquid. A drainage-tube was inserted; a few pints of liquid in a short time thus escaped. Oakum and iodoform dressings were applied. The fluid which escaped was neutral, and had a specific gravity of 1023; under the microscope it was found to contain numerous broken-down red blood cells, leucocytes, a few large, colored corpuscles, thrice the size of ordinary blood discs, and a few still larger cells, showing a distinct nucleus and what seemed like a vacuole. Shortly after this the vaginal incision was enlarged. The patient made a good recovery, and now menstruates regularly. The re-duplication of the second sound over the base of the heart has now disappeared. Professor Bedson, of the College of Physical Science, kindly made a physical and chemical examination of some of the dark fluid submitted to him for analysis. It gave the spectrum of reduced hæmatin, and contained 0.6 per cent. of urea; 100 cubic centimetres contained total solids 7.65 grammes; organic compounds, 6.93 grammes; mineral compounds, 0.72 grammes. In the solids were found salts—for example, chlorides, sulphates and phosphates; and such bases as iron, calcium, magnesium and sodium.

ST. MARY'S HOSPITAL.

(Cases under the care of MR. EDMUND OWEN.)

1. RENAL CALCULUS: NEPHRO-LITHOTOMY: RECOVERY.

[Reported by MESSRS. G. K. MAURICE and BRIND, Dressers.]

The patient was a rather sickly-looking man, æt. 22 years, a carpenter, who was admitted on March 2 th, with dull pains in the left lumbar region, to which he had been subject for eleven years, though sometimes he was free from them for months together. There was a doubtful fullness in the left renal region, and when pressure was made from the front and back at the same time, the examination caused pain. There had been no retraction of, nor pains in, the testis; the lumbar pain was not increased by exercise The urine (specific gravity 1010) contained albumen and pus. The diagnosis was made of renal calculus with secondary abscess.

On March 27th a free incision was made from the outer border of the erector spinæ, parallel with and a little below the last rib; the kidney being reached, an abscess was discovered in its posterior part. This was incised, and a few ounces of pus were allowed to escape; on the introduction of the finger, a calculus was found loose in the cavity. The stone was extracted, and the entire wound was washed out with a mercuric solution (1 in 1,000), after which the abscess cavity contracted to the size of a small walnut. Sutures and a drainage-tube were adjusted, and the wound was dressed by a bulky pad of mercuric wool.

The man passed a restless night, vomiting several times, and in the morning he complained of griping pains across the belly; he was severely purged, moreover, the evacuations being mixed with blood and mucus. His breath had the fœtid and characteristic odor of mercurialism ; the gums were spongy, and saliva flowed constantly and in abundance. It was evident that he had been poisoned by the irrigation, but, though he was very ill in consequence, the wound closed rapidly, and when he left the hospital (May 3rd) he was well and happy, and the wound was completely healed.

(Six months after this report was written the man was again in hospital on account of recurrence of his trouble, and on October 30th the wound was reopened and explored, several other calculi being discovered in the kidney. Nephrectomy was, therefore, performed by a lumbar incision. The man is progressing favorably.)

Remarks.—Since by his operation in the autumn of 1880, Mr. Henry Morris brought the treatment of renal calculus within the range of practical surgery, many patients have had the advantage of the surgical treatment; still, for the present, individual cases are worthy of record. The chief points of interest in this report are the length of time during which the symptoms persisted, and the complete absence of many signs which are usually associated with renal calculus. The man had but three signs—lumbar pains, doubtful renal fullness, and pus in the urine. These, however, taken together, afforded ample justification for operation. The rapidity with which the mercuric salt was absorbed, and the appearance of acute salivation within twenty-four hours of a single irrigation, are deserving of attention. It is certainly a misfortune that so valuable an irrigation fluid as that of the mercuric per-chloride should have been originally introduced for employment at the needless and dangerous strength of 1 in 1,000.

Dr. Luff, who has kindly examined the stone, reports that it weighs 13½ grains; that it is built up of three pyramidal sections, with their axes at right angles to each other; that it contains no uric acid, and that it is probably composed entirely of oxalate of lime.

II. SUTURE OF A LOOSE SEMILUNAR CARTILAGE.

[Reported by Mr. G. K. MAURICE, Dresser.]

R. H., a policeman, came to the hospital at the end of last December, complaining of there being "something loose" in the right knee-joint. On being asked the exact spot, he placed his finger over the inner fibro-cartilage, which, on his bending and straightening the joint, could be clearly felt to slip from its proper position. He said that sometimes, when he was walking, the "slip" was so serious that the knee became "locked," that he suffered much, and that after the occurrence the knee swelled up, and that he had been temporarily invalided by the divisional surgeon. The patient was admitted on January 16th, at which time he had a considerable amount of effusion in the joint.

On January 31st, the limb having been duly prepared, a two-inch incision was made a little in front of, and parallel with, the vertical axis of the joint, and, on the synovial membrane being opened, a large quantity of sero-synovial fluid escaped, and the front end of the semilunar disc was found to be loose, and curled into the gap between the condyle of the femur and the tuberosity of the tibia. The displacement was rectified, and the border of the cartilage was secured in position by a stout wire suture, which traversed the dense fibrous tissue around the margin of the head of the tibia. The joint was then washed out with mercuric solution, drained by a few strands of silk, and dressed with mercuric wool, the wound being closed by a continuous gut suture, and the limb being encased in a gypsum splint which had been previously moulded for the purpose. Next day the temperature reached 100.6°, but higher than this it never ascended, and during the chief part of his convalescence it remained at normal. At the end of six weeks he was discharged, but was advised to keep his knee stiff for a little while longer; a fortnight later, however, the limb was gently but fully flexed under an anæsthetic. He now uses the knee freely, has no pain nor inconvenience with it, and is about to resume his duty.

BELLEVUE HOSPITAL MEDICAL CLINIC. DR. JANEWAY. HÆMOTHORAX.

Case I.—The patient was a man, æt. 46 years His father died of phthisis, his mother of old age. His previous history is good; he has not had syphilis, but has had attacks of "cold" several times; he is a moderate drinker. His present trouble began three weeks ago, with pain in the left side of the chest, cough, and some shortness of breath. He has had since then, on several occasions, chills, fevers and sweats. He has been in the hospital only two days. His temperature has varied from 98°.6 to 100° ¾; the pulse, from 70 to 104; the respirations, from 24 to 28. Yesterday (November 1), while a physical examination of his chest was being made, he fell over in a clonic convulsion, during which he became pale. The convulsion lasted about five minutes. On questioning, the patient admits having suffered from somewhat similar attacks, which he calls "faintness," during the last twenty years. He would usually, he says, lose consciousness during them.

Examining the patient to-day, he is noticed to be markedly anæmic. This paleness he has himself observed for some months. The heart-beat is indistinct; the cardiac dullness normal; there is a faint systolic murmur at the base, which is, in all probability, hæmic. On setting the patient up there is noticed some œdema of the back. By percussion, the right side is found to be flat from the angle of the scapula down. This line of flatness is at least three inches higher in the axillary line, but at the same level in front as behind. The respiratory murmur and voice are absent in this location. The line of flatness varies somewhat with the position of the patient. Above this line the respiratory murmur is good. During the last few days, the patient has complained of pain in the left side. Examination reveals, low down, a narrow area of flatness and loss of respiratory and vocal sounds. These physical signs in the left side were not present yesterday; and on the right side were one and one-half inches lower down. Examination of the urine gives negative results.

This patient, then, is suffering from an accumulation of fluid in the chest. To determine what it is, an aspirator-needle will be introduced. In the left side, no fluid is found; from the right side, some dark-colored, thick blood is withdrawn. It will be noticed that it is blood, and not bloody serum. This procedure was undertaken yesterday, and the house physician tells me that this fluid, examined microscopically, is found filled with many red blood corpuscles; it contains no pus. This patient has hæmothorax. The question arises, had he pleurisy first, or had he the hæmorrhage first and the inflammation secondarily? This cannot be decided positively, as the patient has not been under observation since the beginning, and the history is not clear.

Now, what is likely to have been the cause of the hæmothorax in this case? Very little upon this disease will be found in the textbooks. We will therefore carefully go over the causes that may give rise to this affection, and apply them to this case. First among these, is a giving way of the lung, from hæmorrhagic infarction, gangrene or abscess. Here we would expect to find pneumo-hydrothorax. We have seen, however, that this patient has a good respiratory murmur in the upper part of his chest; we can therefore exclude pneumothorax. Next, the cause might be traumatism. This is the most frequent cause of hæmothorax. By a careful questioning we are able to exclude this also: he has had no fall and no injury. Scurvy is another cause. The patient's gums are not ulcerated, and are healthy looking; no purpuric spots are found on his body; this cause also can be excluded. Again, hæmorrhage into the pleural cavity may occur from the giving way of a varicose vein (which is very rare), or the giving way of an aneurism. These cases are likely to die at once; it is not at all probable, therefore, that the bleeding would occur as slowly as it has in this patient. Moreover, there are no signs of aneurism to be found along the spinal column by percussion or auscultation; and there is no bulging of the chest wall, as almost always takes place, and is indeed the chief sign. Another cause of pleural hæmorrhage is tubercle or cancer. Tubercular pleurisy is especially liable to be hæmorrhagic in a patient as anæmic as this one. There are no signs of phthisis and no history of cancer. Hæmorrhagic diathesis may also be excluded by the history of the patient. Still another cause of this condition is the rupture of a small vessel, possibly constricted, during a convulsion.

Dr. Janeway was inclined to consider the patient's fainting attacks as attacks of *petit mal*. The man denies that he has ever had convulsions or twitchings, or that he has ever bitten his tongue in these seizures; yet these fits of unconsciousness have occurred for as long as twenty years, and with more or less regularity and frequency. The cause of the hæmothorax in this instance is, of course, doubtful; Dr. Janeway inclined to the view that it proceeded from a rupture of a small vesssel during a fit. The fact that yesterday he had such an attack, and to-day the amount of blood is increased, adds to the probability of this view.

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PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

December 4, 1888.

QUESTIONS CONCERNING DIPHTHERIA: A DISCUSSION.

This continued discussion of diphtheria is mainly based on a series of thirteen questions formulated in a paper by Dr. Avery Segur published at pages 426-428 of the JOURNAL for November. In order to avoid a too frequent repetition of matter already in print, the authors of the contributions which follow in this issue in some instances refer to the questions by the numbers which they bear in the pages above cited. A further contribution—an important historical paper by Dr. Wm. H. Thayer—is promised to be presented to the Association on Wednesday, January 2, 1889, at the Hoagland Laboratory, Brooklyn: also a note on the true and false methods of fumigation for the prevention of contagious disease, by Dr. E. R. Squibb.

S. H. BENTON, M.D.—

In answering the questions submitted for discussion by Dr. Segur in his paper read before this Society two months ago, one realizes the fact that brevity must be observed in treating of each question, providing one desires to notice them all. And it would be hard to decide which ones to omit as they are all important and interesting questions.

However, as I understand that it is desirable to close the consideration of the subject to-night, I shall not take up much time.

My experience in diphtheria extends over a period of eighteen or more years, and during that time I have passed through some very severe epidemics which afforded many opportunities for theoretical observations, which cannot be indulged in at this time.

1. Are there cases of diphtheria having the characteristic local condition without severe constitutional symptoms which recover without drug treatment? I believe there are many such cases, some of which have come under my observation. I have been called to attend children in a family of six to eight, two or three of which were violently

ill with diphtheria, with grave constitutional symptoms. Others of the number were slightly indisposed, with the characteristic exudate on the tonsils, no temperature and little loss of appetite. These I have many times let run around their rooms without any medical treatment whatever, and complete recovery ensued. While this is not my usual method of handling very mild cases, yet enough have been treated expectantly to demonstrate to my mind that we cannot be sure that many mild cases would not have run their natural course without medical agents.

2. Are there cases of diphtheria which run their courses without attracting attention to the throat or present no membrane if the throat be examined ?

If it be true that diphtheria is first a local disease, with secondary constitutional manifestations, as I believe, it seems to me improbable that we can have diphtheria without throat symptoms. I say this conscious of the fact that many eminent authorities affirm that such a condition can exist.

3. Is it probable that many cases of diphtheria are so mild as to entirely escape recognition, or not to go to bed ? I believe that a certain number of cases of diphtheria escape notice in some poor families, the parents of which, fretted and worried over the hard struggle to get bread for their numerous progeny, thereby becoming indifferent to the mild indisposition of their children. Doubtless in this way many unrecognized cases of diphtheria are left to the beneficent care of a greater Physician than we.

4. Are there more very mild cases now than there were observed in the earlier histories, or does a more critical diagnosis now include cases formerly considered as tonsilitis, simple sore throat, etc. ? I am not a very ancient historian in medicines, but as I understand it, Dr. Segur desires in this question the personal reminiscences of the fellows, and if my memory serves me right, it does seem to me that diphtheria has taken on a milder type the last six or eight years.

This may be simply a coincidence with me, but it certainly is a fact, that no case of diphtheria has died under my observation during the last six years ; unless there was laryngeal complication. This much I could not say fifteen years ago. As to the inclusion of follicular tonsilitis as diphtheria, or in any way related to the same, I cannot admit.

We know that tonsilitis is developed from apparent health by a sudden chill, followed by high temperature, rapid pulse and violent sore throat. The distress in deglutition amounting many times to almost agony. The exudate always cheesy and easily removed, and if the inflammation does not run into a quinzy, three days is the maximum duration of most cases, and this without any medication whatever in some instances.

Have any gentlemen present ever seen a case of diphtheria develop so violently and run its course in three or four days to recover ?

5. Do an increasing number of cases of diphtheria recover ? If so, is the result due to better treatment ?

As to the first part of this question, I am inclined to answer in the affirmative; but as to the last, I am not sure that a better method of treatment is in use now, than was in practice twenty years ago. A few physicians are known to be riding a certain hobby for a time, not long, but I believe the greatest number of practitioners, after using the new remedies for a time, gladly go back to the old line of treatment as the most satisfactory.

6. Does treatment directed to any supposed cause of diphtheria, as microbes—give better or as good results as treatment to "obviate the tendency to death?" And are there important remedies other than supporting?

Inasmuch as it is the accepted belief that all contagious diseases are due to microbic origin, one would be considered a heretic, did he not advocate the local application of antiseptic agents in the treatment of diphtheria. But just how much benefit is derived from their use is an unsettled question, as I understand it, amongst physicians.

However, for the last two or three years, I have been in the habit of using in most cases, a solution of bichloride, about one part to five hundred in a spray, using an atomizer with a rubber attachment.

While I have had reasons to be pleased with the use of the mercurial salts in most cases, I cannot say that I have not had equally as good results with other medicines. A few clever physicians will tell us that they consider the local application of a solution of bichloride of mercury the most important factor in the treatment of all cases of diphtheria. But as I have always considered diphtheria a self-eliminatory disease, if the general vigor of the patient can be maintained. I have always given special attention to the above mentioned object.

7. What is the evidence that very large quantities (one or two pints a day) of brandy or whiskey are necessary in severe cases? And what is the limit of alcoholic tolerance. I have never given so large quantities of stimulants, as I have never thought my little patients could tolerate them. However, it is a rare exception that I omit their use, and I give them only in quantities which will be assimilated, the evidence of which will be apparent in their breath. To go beyond this point, which must be attained by the administration of two pints of whisky to a child of from five to ten years, will only act as an irritant and a poison.

8. As to this question, I will leave it to others to discuss.

9. What is the value of the tincture of chloride of iron, of chlorate of potassium, of surgical interference? The tincture of the chloride of iron I believe to be of great use in the treatment of diphtheria. The use of chlorate of potassium I have very little faith in, and if given at all, in very small doses with the iron. Of surgical interference in laryngeal diphtheritis I have great faith in selected cases. It is in these cases that the physician must be the careful surgeon, operating only on those cases which hold out a reasonable chance of saving the little sufferer. I have several times regretted that I deferred operating so long, and my only excuse was that I was in hopes the alarming

symptoms might clear up and thereby avoid what appears to the parents a horrid operation. But in every one of my cases, with a possible exception, they continued to grow worse. This one case to which I refer, was diagnosed as membranous croup. It was held in the arms of its parents, in an improvised tent, in a lime vapor for four days and nights, and during that time was in eminent danger of suffocation. It finally recovered, after expelling several casts of membrane. I have operated by tracheotomy on fourteen children, three of which recovered. I also assisted Dr. McCollom in one case which recovered, and if I may be allowed to add this case to my own list, makes four recoveries in fifteen cases. In all of these cases of recovery I feel absolutely certain they would all have died without operative interference. As regards intubation, which my friend, Dr. McNaughton, of this city, as well as many other surgeons have successfully made, I think well of. I have never seen the operation made, but it seems to me that, from the reports of other surgeons, the operation is peculiarly adapted to very young children, and has not so far taken the place of tracheotomy in those from ten to twelve years of age. I have never found it an easy matter by any means to operate on a very young child, the youngest of which was eighteen months. Their little necks are very short and fat, and when we reach the trachea, we find it not much larger than a straw and not always easy to open and insert a tube.

My belief in the efficacy of operative interference is so strong that I would not allow one of my own children to die from laryngeal obstruction without opening the trachea or intubation.

N. W. Leighton, M. D.—

Question 1—I have not met with cases in which I saw local manifestations of diphtheria without some constitutional symptoms, although drug treatment may not have been necessary in all of them.

Question 2—I do not call to mind cases to confirm the fact, yet I am of the opinion that diphtheria does occasionally run its course without noticeable throat symptoms.

Question 3—I have had no experience to confirm the probability that many cases of diphtheria are so mild as to escape recognition; yet it is probable that some do occur, as in other contagious diseases.

Question 4.—I do not think I have observed more very mild cases of diphtheria in latter than in former years. I have treated more inflammatory diseases of the fauces and nares than in former years, but I have not been convinced that they were diphtheritic in origin or capable of transmitting diphtheria to others. I do not think that the grayish-white spots which so often surround the apertures of the inflamed tonsillar glands, as a rule, contain the specific cause of diphtheria. I have been subject to tonsilitis ever since I can remember. When very young I tried to be as wise as my father in foretelling the storms of autumn and winter, my throat being the index to my prognostications. I had a portion of my tonsils amputated after my graduation in medicine. The operation gave relief to phonation and deglutition, but it did not null the sensibility of the parts to cold and atmospheric changes. I cannot be exposed to a draft on my neck or to cold feet without exciting some degree of inflammatory action in my fauces. Two of my children have from early childhood had frequent attacks of tonsilitis and pharyngeal and post-nasal catarrh, usually after exposure to inclement weather. My younger, a foster son, is not so affected. If we were generators of diphtheria, how could my younger son have escaped so many exposures? He had a severe type of diphtheria in 1880, when none of us were affected with angina or catarrh. I cannot recall a case of diphtheria in my practice where I could have been the source of the contagion. And I have treated many "sore throats" in families where younger members were sufficiently exposed to have contracted diphtheria if it had existed. I am rather inclined to think that throats wherein the glands are overactive are less receptive to diphtheria and scarlatina than those not so affected.

My first experience with diphtheria was in Brooklyn in the fall or early winter of 1859. Then and ever since I have regarded it as a disease the poisonous element of which enters the blood before the throat symptoms are manifested. It is probable that the fauces are the avenues of admission in a large majority of cases, yet I do not think it presents its local characteristics until it has permeated the system. I have regarded it asthenic in character, its intensity varying according to the quantity or potency of the virus, or the condition of the individual attacked. I have seen diphtheria, as I have scarlatina, destroy the patient before it had developed to recognition, diagnosis being founded upon subsequent information. When thus overwhelming in its onset, it leaves behind it no power to assimilate food or absorb medicine.

Question 5—Not having statistics, but relying upon my memory, I believe I have had more recoveries in the past eight or ten years than earlier in my practice. I am certain of having had unexpected recoveries. If I am correct in my impression of better results, it has been due in part to the abandonment of forcible local treatment, and in part to the "tincture of chloride of iron." It appears to me more important to conserve the vital powers than to add to their exhaustion. The child's danger is far greater from the poison within the system than from that which occupies the fauces and nares. Without discussing the conservative law of self-preservation against the resorption of poisons once eliminated from the systemic circulation, I wish to affirm my belief that mischief may be done in the process of local cleansing by destroying nature's barrier against absorption. And there is danger of fatal syncope by fright or by struggling and strangling during forcible local treatment. I use the term "fatal syncope" in preference to "heart failure," because I think death begins at the brain. Life ceases, not because the engine gives out, but its engineer is paralyzed by poison or exhausted by innutrition. The paralysis of other nerve centres is corroborative evidence that the heart's engineering nerves first cease their vigilance.

Question 6—I rely upon supporting remedies, such as I make use of in other asthenic diseases, giving a decided preference to the "tincture of chloride of iron." Thirty years ago, to my personal knowledge, and from that time to the present, various remedies have been introduced to the profession as fancied specifics and prophylactics for scarlatina, and used on the hypothesis that some invisible organic product acted directly or indirectly as the morbific agent. I tried the same remedies in diphtheria, with the same end in view, and with the same disappointing results. Now that the hypothetical and invisible have become actual and microvisible, we need to double our vigilance in the search for prophylactics. So I hail with gladness the acquisition of bacteriology to the medical science, although it seems to be in the crucible of speculation, and not yet crystallized into a working theory for the general practitioner.

Question 7—My experience with very large doses of brandy and whiskey has not been successful; that is to say, cases which were not benefited by the ordinary sustaining doses could not swallow sufficient to saturate the system.

Question 8—I have had no experience with corrosive sublimate in diphtheria. As conservators of health, we need to exercise caution in the adoption of remedies which, if popularized, may cause more deaths than the disease we strive to banish.

Question 9—The "tincture of chloride of iron" has proved to be the most valuable medicine I have used in diphtheria. I am under the impression that it acts in some way as an antagonist to the dangerous blood changes which diphtheria produces. Its local effect in the act of swallowing is beneficial to the fauces in reducing hyperæmia, lessening the glandular secretion, and diminishing the sensibility of the parts. It may also possess antiseptic and bacillicide properties. I prefer giving it to children in small doses every hour or every half hour.

I can see no hope in surgical aid only when death from apnœa is imminent, and then in consequence of stenosis of the larynx without pulmonary or bronchial complication.

Question 10*a*—Abundant fresh air and the ordinary cleanliness as practiced by a tidy house-wife. That which so often vexes the soul of man, but which the faithful house-wife persists in doing, may have destroyed many a contagion within the premises. She has her times and seasons for searching every nook and corner from cellar to garret; she dislodges every book and paper, every article of clothing and bedding, removes all rubbish, lint, dust and cobwebs, applies soap and water, fills every crevice with turpentine, kerosene, borax or pyrethrum (if she does not use the more dangerous naphtha, Paris green or corrosive sublimate). She paints and whitewashes the dingy parts; she puts salt or lime or chloride of lime into the water-closets and drain-pipes, and pours boiling water into them. If her home is in the country, she throws lime, salt or wood ashes into the surface drains. She removes the carpets and renovates them by beating and sweeping, and after relaying sprinkles or wipes them with turpentine. She wipes down the papered walls with a smoothly cut bread loaf—a practice long known in house-wifery, though recently brought to notice by an eminent European surgeon. And finally she pronounces her work well done with the emphatic exclamation: "There, now, the house *smells clean!*"

What the faithful house-wife does to destroy and remove offenses to sight and smell is good preventive practice against "the pestilence that walketh in darkness." The mansion of the affluent may have all the appearance of perfect purity, yet if the good lady becomes so absorbed in charity and church and mission work that she omits to scrutinize the doings of her domestics, her house may be "left unto her desolate."

That filth renders infection more prolific was a fact known to Moses and the Israelites. And they exercised better sanitary discipline, in many respects, than is practiced in the nineteenth century.

Question 10*c*—Destruction by fire of all decomposing and putrescent matter. If I had supreme authority in a city, every house should dispose of its own garbage daily. After submitting vegetable residue to great pressure all garbage might be utilized as fuel; the liquids from it to be drained into the sewer.

I would also prohibit the custom of sweeping the dirt into the centre of the street every morning, there to be scattered by the horses, the vehicles and the wind till the next morning, the double process supplying the dwellings with tenfold more dust than if left undisturbed. True, much of the dust may be comparatively harmless, yet now and then it may be freighted with dangerous infection. My instruction at home has been to remove all the dirt from the gutter and put it in the garden, where the worms of the soil and the vegetation can exercise their natural sanitary powers. The dirt could be swept from the centre of the street to the gutter and put into barrels for removal, as the ashes are now removed.

Question 11—I recommend seclusion in all cases of diphtheria till the fever subsides and the throat looks healthy. I direct about the same management of clothing, bedding and apartments that I do after scarlatina.

I have no proof, however, that the virus of diphtheria retains its propagating power as long as scarlatina or rubeola, or that it is transmitted through the clothing or hair.

I recommend the use of old muslin, or linen, or cheese cloth, after boiling in soap-suds or a solution of soda to make it readily absorbent, and cut it into small patches to be used in collecting the discharges from mouth and nostrils to be burned.

The same plan I recommend in the care of phthisical patients.

Question 12—It is very probable that diphtheria, as well as other infectious diseases, would be less prevalent if all drain-pipes and sewers could be cleansed ; but I believe that diphtheria has some other centre of propagation than the sewers. May it not be native to some animal species whose migratory habits cause them to plant nurseries of the disease in localities which have hitherto been unaccounted for ? *Tinea favosa*, I know from personal observation, to be a prevalent disease among common mice, particularly aged mice. If diphtheria is as prevalent among rats as favus is among mice, it would account for the outbreaks in the country as well as in the cities.

Question 13—I cannot hope for absolute prevention of diphtheria till I have more knowledge of its origin. In our efforts for prevention of diphtheria and other infections, caution seems necessary not to alarm the public to a degree that prompts the people to the use of dangerous preventive measures, bearing in mind that the "patent medicine man" is ever ready to counterfeit the remedy which the profession adopts, and to steal their endorsements for advertising purposes.

E. J. C. Minard, M.D.—

Diagnostic: No doubt there are cases of contagious disease of all classes which run their course and recover without drug treatment. I have had cases of scarlet fever, where the symptoms of the first one were so obscure, that a careful, devoted mother discovered only weariness, for which the child was taken from school. It was with the greatest persuasion that she isolated the other children from their playmate till I could prove or disprove scarlet fever. She had called me in for "rheumatism," as she expressed it, which proved to be the sequela of scarlet fever, as the others took the fever in due time.

In typhoid fever, cases have run their course with recovery without drug treatment, while less robust members of the family have succumbed to its deadly poison.

I have had no cases of diphtheria to prove this, but I would not doubt it, and always ask " have other members of the family had sore throat, or been sick for the past six or ten days ?"

There seems to be more care taken to diagnose this disease than formerly among the regular profession, and more attention paid by members of the community in general, to sore throats ; frequent examinations being made by the patient or others and domestic remedies applied, and if not successful, the doctor is summoned at once.

The education of the masses in preventive medicine and the dread of the deadly disease have taught the people wisdom. The poison is the same, only hygienic knowledge will render it mild ; and early care and treatment only to be trusted, which sometimes fails. The proof of this may be found in country towns where this disease at times scourges them like a plague.

A few winters since, I was snowed in at a village on the St. Paul railroad in Iowa. Diphtheria was raging among the farmhouses and along the crossroads, while only a few cases appeared in this clean little " city " of 800 inhabitants. The bad hygienic condition of the farmhouses, the crowding into one room for warmth, the snow blockade, and the scarcity of coal had caused the disease to develop in its most deadly form, until homes were almost destroyed and the best treatment a failure.

Therapeutical: The better sanitary condition of cities and communities for the past few years, the education of the people in sanitary law and personal hygiene, favors recovery, because our treatment can be better carried out, aided by this intelligence. In some localities the success is due to more intelligent treatment, no doubt. After the *microbe theory* set the practitioner thinking I found I had been using antiseptic remedies from good college training rather than from a knowledge of the reason for such treatment; and since I have used or added a germicide I have had such success that I do not wish to test a case without one.

The late Dr. Thallon, a year or two since, read a paper before the Pathological Society advocating corrosive sublimate in the treatment of diphtheria quoting reliable authorities and giving cases. On returning to my office that night, I found a message, asking me to call on a family (who were fearful of diphtheria), to see a suspected case.

I prepared a solution of corrosive sublimate $^1/_{48}$ of a grain per dose, in water, and armed with this and other remedies, I answered the call. For well I knew that the druggist, as well as policeman sleeps soundly after 12 o'clock. I found a bad case of diphtheria, an adult male member of the family, had been suffering for three days with sore throat, had been compelled to take his bed that evening, an onion poultice had been applied externally and some domestic remedies had been given. After having him made comfortable, I examined, and found constitutional symptoms severe. The throat red, and swollen externally, and covered with patches internally.

I began the administration of the corrosive sublimate solution every half hour, while I had him isolated as far as possible; gave milk and whiskey and left him sleeping. I called the next day, found the constitutional symptoms improved, and the patches gone. Continued treatment, ordered quinine, as this was a too untried remedy on which to pin my faith. The patient recovered in six days and resumed work.

A short time afterwards I had another case of a child. It was the worst case I ever had to treat, as the nose and eyes were involved. Again I had recourse to this remedy; the case grew worse and I combined my old treatment, chlorate of potash, iron, powdered sulphur, quinine, milk, whiskey, etc., still it grew worse, and I called consultation for my own benefit. In the meantime I had the nose syringed three times a day and the throat washed out with this solution. The eminent consultant advised me to double the quantity of whiskey, use stronger douches, and gave me no hope to build on. I continued the corrosive treatment, alternating with the other remedies; the patient recovered in three weeks. Other members of the family had sore throats, but under the use of a weak solution of the corrosive applied to the throat, and stimulating food, they recovered in a day or so.

A third case where I used only the old remedies recovered, but the lower extremities were partially paralyzed for three months.

I now treat diphtheria as a local germ disease, with antiseptic and supporting remedies. The best germicide is corrosive sublimate internally and as a spray; and success will always be in proportion to the early diagnosis and prompt treatment of the disease. The constitutional disturbance is to be combatted by the best sustaining remedies as in other diseases. The limit of alcoholic tolerance can not be laid down; it must be decided by the physician. I still use iron, chlorate of potash, sulphur, etc., but prefer of late the corrosive sublimate, in small doses frequently repeated.

Preventive measures have been so ably carried out by the boards of health in our cities that I can only add, if more definite instruction were printed so that parents could be on the watch for this deadly disease the boards would have great assistance in carrying out sanitary rules. The main hope of saving life is in the practice of known means of prevention, the germ being the same, only wanting a soil to grow in.

G. G. Hopkins, M. D.—

1. Are there cases of diphtheria having the characteristic local condition without severe constitutional symptoms which recover without requiring drug treatment? Our opinion in regard to this question must be purely theoretical, as any practitioner finding the slightest local manifestations of such a severe constitutional disease, would be culpable if he were to let them pass without treatment, of such kind as he believed to be most efficacious.

2. Are there cases of diphtheria which run their courses without attracting attention to the throat, or present no membrane if the throat be examined? There certainly are such cases.

3. Is it probable that many cases of diphtheria are so mild as to entirely escape recognition or not to go to bed? To my mind there is no doubt that such is the case. This opinion is sustained by the fact that we see in the same family the most severe type and the very mild type occurring simultaneously.

4. Are there more very mild cases now than were observed in the earlier histories of diphtheria, or does a more critical diagnosis now include cases formerly considered tonsilitis, simple sore throat, etc.? My experience would lead me to say that there are more mild cases now than formerly.

5. *a.* Do an increasing number of cases of diphtheria recover? In my own experience no.

b. If so is it the result of better treatment? Having found one plan of treatment good and seldom deviated from it, for twenty years, my results, as a rule, have been satisfactory.

6. Does treatment directed to any supposed cause of diphtheria as microbes give better or as good results, as treatment "to obviate the tendency to death" and are there important remedies other than supporting?

The answer to this question from my point of view covers the 7th and part of the 9th.

The oldest antiseptic of which we have any record is alcohol. In my practice I have always used alcohol in some form with a view to its being a local and systemic antiseptic. Its local effect is in passing the fauces and its systemic effect is in saturating the blood and thus destroying diphtheritic bacilli circulating in the blood. Also it obviates the tendency to death by its stimulating properties. I have had decided evidence of such action in hundreds of cases.

In illustration of this point I will cite one or two cases. The first of these is the most decisive of the influence of alcohol in diphtheria, that has come under my observation.

A baby six months old, in Irving place, was attacked with diphtheria. When I first saw her I found a small patch on either tonsil. There was little evidence of systemic infection. I ordered thirty drops of brandy every two hours in milk. At the end of twelve hours the membrane had increased and there was fever and restlessness. The brandy was increased to a teaspoonful every two hours. At the next visit (about twelve hours after) there was still evidence of advance of the disease, the local and systemic symptoms being more pronounced. The dose was then increased to one teaspoonful every hour, at the next visit the child was in a decidedly better condition and the disease was coming under control, the dose was increased to a teaspoonful every half hour. This made the aggregate dose six or seven ounces of the best French brandy in twenty-four hours, to this babe of six months of age. With the increase in the dose there was a retrograde movement in the disease. At the end of four days the membrane had disappeared and I then reduced the dose one half. The next day the membrane reappeared and the full dose was resumed, rapid improvement ensued. The dose after four or five days was reduced one half, and again a reappearance of the membrane declared the renewal of the disease; the full dose was resumed with prompt improvement in all the symptoms. This was continued for four or five days and the patient being then in good condition the doses of brandy were gradually reduced and there was no return of the disease.

The child made a good recovery, with the exception of the development of a parotid abscess.

The next patient, a young lady in the same street, same season, at the other end of the block. Had never taken stimulants of any kind. On first seeing her found the fauces and tonsils covered with a dark slate colored membrane. I ordered one oz. of brandy every two hours, a mixture of mur tr. iron gtt. xv. pot. chlor. gr. j. to be given every two hours and a saturated solution potassium chlorate to be used as a gargle every half hour. At my next visit, about twelve hours thereafter, the improvement not being marked I doubled the dose of brandy, thus giving two ounces every two hours; a pint and a half of brandy (which I knew was of the best) in twenty-four hours. These doses were continued for seven days, when there was a decided improvement, though the stomach began to rebel at this time the patient continued to mend rapidly and decidedly. This was one of the most virulent cases that I have ever met with. Yet the patient had no sequela.

And here I would advance what I consider one of the strongest arguments in favor of the use of alcohol, namely, that sequela are almost unknown where it is freely used. I have yet to see a case of paralysis, of any portion of the body, except the fauces, after diphtheria where alcohol has been freely used.

8. In reference to the use of corrosive sublimate? In my own cases I have never used it being abundantly satisfied with other bacillicides. But I have seen it used in a number of cases, where I have been called in consultation; when it has been laid aside and full doses of alcohol and iron substituted, the improvement has been rapid in every case.

9. What is the value of tincture of iron, of chlorate of potash, of surgical interference? The combination of the muriated tincture of iron and potassium chloride is useful as a bacillicide not only from the tincture but from the free chlorine which is evolved by the action of the excess of muriatic acid on the potassium chloride.

The iron is useful by its tonic effect on the blood, for, with the possible exception of the carbonate, no preparation of iron has yet been found which is comparable to the tincture for its rapid absorption and effect on the blood.

The history of the surgery of this disease is replete with the sacrifice of valuable lives of medical attendants to no purpose.

I have operated on but one case and then it was through misapprehension. As had the case been clear in the beginning alcohol would have served better than the knife.

It was the same season that Dr. Garry Hutchison sacrificed his life, that I operated and came very near losing my own.

I was called to a boy æt. 5 years. On the same block with the two cases reported above, strange to say they at either end on the east side, he in the middle on the west side of the street. It was about 12 P.M., I found him suffering apparently from true croup and very much oppressed for breath. A dose of ipecac and a little moisture soon relieved him of his urgent symptoms. He was a very tractable child and with the laryngoscope we could plainly see a patch on one vocal membrane, but the tonsils and pharynx were perfectly healthy. He had no urgent symptoms then, in fact seemed to feel perfectly well. In the night I was called in haste and finding the child unconscious, with livid face, I operated at once and in fifteen minutes the boy wanted his playthings and sat up in bed entirely relieved, and I congratulated myself on a successful tracheotomy. During the next day he coughed up the small patch of membrane that we had seen on the vocal membrane; there was now an abundant secretion of tenacious mucoid fluid from the trachea, and the tube was kept free with difficulty. On the second day false membrane had formed around the tube and our diagnosis was modified to diphtheria. The child died the seventh day after the operation.

On that night, the first that I had been in bed for a week, I awoke about 3 A.M. with a feeling of great distress in my throat. An examination of my throat, showed it to be highly congested and a membrane exuding. Having some good brandy at hand I took a half pint as a first dose and before breakfast time I had emptied a quart bottle.

I was out and at work again in a week, though in a very debilitated condition, but I am satisfied that the prompt and free use of alcohol saved my life; while to-day I could not take half an ounce of brandy without being a little "heady."

10. What are the important measures of prevention? Alcohol.

I am in the habit of putting all persons who are exposed to the contagion under alcoholic treatment as a prophylactic.

G. A. OSTRANDER, M. D.—

The subject before us for discussion to-night, is, to my mind, one of the most vital, interesting and important in all the range of diseases. It has been my lot to see and treat very many cases of diphtheria. I had the opportunity to watch, for two weeks, what were then said (and I still believe, truly said) to be the first cases that occurred in Brooklyn. They were in the family of a Mr. S——, residing at the corner of New York Avenue and Pacific Street, and in the practice of the late Dr. Swift, of Grand Avenue. He called in Dr. Louis Bauer and Dr. Daniel Ayres, and the latter gentleman asked me to go there and act as night nurse. This was in 1859, and although I had been in practice a year, I had never seen the disease nor heard the name. The eldest child, a girl æt. eleven years, was immediately sent away, and she was the only one who escaped. The other three all died. Dr. Ayres performed tracheotomy on one, with his usual skill, but it died within twenty-four hours. All forms of treatment—applications, fumigations, inhalations and disinfectants were tried and persevered in, in vain, for all died within the short space of four days from the inception of the attack. What was singular to me at the time, was, that there was no *rigor mortis*, but mortification set in at once. The father, mother, two servants and coachman were all then taken down and all recovered. The house still stands, and is a large double frame building, with every convenience, except water, that wealth could supply. The grounds, which ran from Pacific Street to Atlantic Avenue, were very tastefully laid out, and, as the city's water system had not then been extended so far, the water was obtained from a neighboring pump. The privy was somewhat over two hundred feet from the house, and all the filth was carried out to it. There were no other cases in the neighborhood. I do not see how sewer gas could have had any agency in the causation of *these* cases.

One fact in all these cases struck me forcibly, and as I have seen it so often since I will mention it here. This was their marked similarity in appearance to scarlet fever. So evident was it, that I asked myself, as I have often done since, is not this disease really a form of scarlet fever? There were the red congested skin, the strawberry tongue, albumen in the urine, etc. I am free to say that I have had many cases, in which I, and those I called in consultation, have been puzzled to decide which disease we had. So often has this been the case, that I am almost convinced that scarlet fever and diphtheria are only different modifications of one and the same poison. One case of the many that have led me to this belief, came under my care last March, and I will here give the notes of it taken at the time:

March 2, 1888.—Attended Mrs. V——, of Lexington Avenue, in confinement. The family occupy the whole house, and consists of Mr. and Mrs. V——, their two children—a boy of four years and a girl of two—and Mrs. V——'s mother. On the day of the confinement, the little boy was sent to visit his aunt, at Red Bank, N. J., and the little girl remained at home. I had not attended any scarlet fever or diphtheria for two months. No one left the house at all during the sickness, except the father, and he only went to his carpenter shop and back again, each day, nor were there any visitors. The confinement was easy and natural, and my visits ceased on March 11. On the 29th the little boy was brought home. Up to this time all the family were well. On the 30th I was sent for to see the little boy. His aunt, who brought him home, informed me that there was no scarlet fever or diphtheria in Red Bank, but as he seemed a little sick she had sent for her physician, who said it was nothing but a little cold, and thought she had better take him home. I found him suffering with diphtheria, the glands of the neck swollen, large diphtheritic patches on both tonsils, the peculiar offensive odor, etc. He had been playing with his sister the day previous, but I had him at once quarantined, and from this time on, his grandmother shut herself up with him, in the front basement, all communication with the rest of the family being thus completely shut off. On the 9th of April, nine days after her exposure to diphtheria, the little girl came down with a perfectly typical case of scarlet fever. She had no diphtheritic patches in her throat at any time, no discharge from the nares, no swelling of the glands. On the fifth day desquamation commenced, and was as great in quantity as I have ever seen. I am happy to say that both children recovered. Now where did this little girl get scarlet fever? I think we must exclude every cause, except only the inhalation of a peculiar malarial poison, thrown off by her brother's diphtheritic breath. I leave the opinion to your thoughtful consideration, merely hinting that I think it worth investigation.

Diagnostic: 1. Are there cases of diphtheria having the characteristic local condition without severe constitutional symptoms, which recover without requiring drug treatment? I would not call such cases diphtheria. They are probably mild scarlet fever.

2. Are there cases of diphtheria which run their courses without attracting attention to the throat, or present no membrane if the throat

be examined? There may be; for the disease may be confined entirely to the nares.

3. Is it probable that many cases of diphtheria are so mild as to entirely escape recognition,—or not to go to bed? I think not; at any rate I have not seen any, and would call all such cases mild scarlet fever.

4. Are there more very mild cases now than there were observed in the earlier histories of diphtheria; or does a more critical diagnosis now include cases formerly considered as tonsilitis, simple sore throat, etc.? I think there may be more mild cases now; and yet I think a more critical examination would exclude very many cases of follicular pharyngitis and tonsilitis with ulceration, now so frequently reported as diphtheria, especially by irregular physicians, who make capital in this way as speedy and perfect cures of diphtheria. It would also be the means of relieving many families of unnecessary nervous excitement and alarm, which alone would be a great gain.

Therapeutical: 5. *a.* Do an increasing number of cases of diphtheria recover? *b.* If so, is the result due to better treatment? *a.* Probably so, *b.* by better and earlier treatment.

6. Does treatment directed to any supposed cause of diphtheria, as microbes, give better, or as good results as treatment to "obviate the tendency to death," and are there important remedies other than supporting? This question I cannot answer, as I have always used a combination treatment.

7. What is the evidence that very large quantities (one or two pints a day) of brandy or whiskey are necessary in severe cases; and what is the limit of alcoholic tolerance? My evidence in favor of alcoholic stimulants, I wish to say, is very strong indeed, and their tolerance in diphtheria, as in typhoid fever, almost beyond belief. I have given a pint and over every day to young children, again and again, without any bad effects. but quite the contrary.

8. If corrosive sublimate be used; what is the evidence—*a.* Of bacillicide influence? *b.* Of sufficient dosage? *c.* Of timely warning of toxic effect? I have used corrosive sublimate, and still use it, very frequently, but have seen no evidence of any special bacillicide influence, or any poisoning effects. I have, however, always used it in conjunction with other remedies, and therefore, cannot speak of its action when used alone.

9. What is the value of the tincture of chloride of iron—of chlorate of potassium? For internal remedies, the tr. ferri. chlorid., chlorate of potash and hydrag. bi-chlorid. are my stand-bys. I also order frequent inhalations of the fumes of burning sulphur, and where it is possible a gargle of tannin and chlorate of potash. Where they cannot gargle I use a spray of the same. I also often use in the atomizer a mixture of salicylate of soda, acid boracic, acid carbolic, glycerine and lime water. From what I have seen I would not allow surgical interference in my own child, if suffering from diphtheria. I have never seen a single case that recovered after the operation, and I think

that it only adds to the danger, and hastens a painful death. I do not know how it can be of any service, if the disease is not in the larynx, and when it has attacked the larynx, generally, it rapidly extends downwards into the larger bronchi, and the case is hopeless from the first, operation or no operation. I have had no experience in intubation, but would be afraid that some piece or pieces of the membrane might be pushed ahead of the instrument, and, closing up the bronchi, produce death by asphyxia. I do not believe in the oneness of membranous croup and diphtheria.

10. What are the important measures of prevention? *a.* In the family? *b.* In the neighborhood? *c.* In the town or city? *d.* In schools? *e.* How long should children who have escaped infected houses be excluded from schools? *f.* How long should convalescent children be excluded from schools? *a.* In the family, I think one of the most important means of prevention would be a rigid enforcement of a law against *kissing.* Fumigation by burning sulphur and the administration of frequent and small doses of quinine. *b.*, *c.* and *d.* Perfect cleanliness, perfect quarantining of any sporadic cases. Perfect sewerage and cleanliness of sinks and water-closets. *e.* From three to four weeks, if they have been especially exposed to the breath of the infected. If not, not at all. *f.* From three to four weeks, according to the severity of the disease.

11. What is the relative value of isolation? *a.* of the person? *b.* Of immediate destruction of fomites? Absolutely necessary.

12. What would be the result upon diphtheria in Brooklyn if all the house-drains and public sewers were kept pure in the sense of cleanliness; or, if organic processes and products in their walls and contents were chemically destroyed? I suppose the only cases we would then have would be sporadic. Although I do not think that sewer gas is the cause of diphtheria. I do think that it promotes and favors its growth and spread.

13. Is there more hope of saving life by practicable but now unused means of prevention, than by any present or probable means by remedial treatment? Yes; we most assuredly, earnestly hope and expect that as Science, with eagle eye and eager hands, penetrates farther and farther into the darkness of cause and effect, opening new fields of experiment, and bringing to light new remedies, we shall continue to advance, and continue to despoil the enemy that now robs us of so many of our loved ones, and makes our homes so desolate and sad.

A. N. BELL, M. D.—

Diagnostic: 1. Are there cases of diphtheria having the characteristic local condition, without severe constitutional symptoms, which recover without requiring drug treatment?

2. Are there cases of diphtheria which run their courses without attracting attention to the throat, or present no membrane if the throat be examined?

3. Is it probable that many cases of diphtheria are so mild as to entirely escape recognition, or not to go to bed?

4. Are there more very mild cases now than there were observed in the earlier histories of diphtheria, or does a more critical diagnosis now include cases formerly considered as tonsilitis, simple sore throat, etc.?

Therapeutical: 5. *a.* Do an increasing number of cases of diphtheria recover?

b. If so, is the result due to better treatment?

6. Does treatment directed to any supposed cause of diphtheria, as microbes, give better or as good results as treatment to "obviate the tendency to death," and are there important remedies other than supporting?

7. What is the evidence that very large quantities (one or two pints a day) of brandy or whiskey are necessary in severe cases, and what is the limit of alcoholic tolerance?

8. If corrosive sublimate be used, what is the evidence:

a. Of bacillide influence?

b. Of sufficient dosage?

c. Of timely warning of toxic effects?

9. What is the value of the tincture of chloride of iron, or chlorate of potassium, of surgical interference?

Preventive: 10. What are the important measures of prevention:

a. In the family?

b. In the neighborhood?

c. In the town or city?

d. In schools?

e. How long should children who have escaped infected houses be excluded from schools?

f. How long should convalescent children be excluded from schools?

11. What is the relative value of isolation:

a. Of the person?

b. Of immediate destruction of fomites?

12. What would be the result upon diphtheria in Brooklyn if all the house drains and public sewers were kept pure in the sense of cleanliness, or if organic processes and products in the walls and contents were chemically destoyed?

13. Is there more hope of saving life by practicable but now unused means of prevention than by any present or probable means by remedial treatment?

10. *a* to *d.* It should perhaps be understood without saying that since the excreta and refuse of human beings and animals may, and not infrequently do, contain the poisons of certain specific diseases, and particularly of diphtheria, the more these matters are allowed to accumulate and are retained about the premises of human habitations and schools, the more likely diphtheria and other filth diseases are to spring up and spread; and of like nature in its effects is air poisoned

by overcrowding and confinement in habitations, school-rooms, filthy courts, alley-ways and close back-yards, subject to filth storage and out-throw, in large measure divested of sunshine and free circulation of the air. All such conditions and places are promotive of filth diseases, and particularly of diphtheria.

e. Twelve days—twice the period of incubation, usually from three to six days—provided the exposure is not repeated, and such exposed child's clothing has meanwhile been thoroughly disinfected.

f. Until thoroughly *restored* health—at the least two weeks after every vestige of the disease has been eradicated.

11. *a. b.* The destruction of fomites is of primary importance under all circumstances, and should take precedence. Yet, considering the contagiousness of the disease, the same restrictions should be applied to children who have been exposed as those governing school children.

12. This question only approximates possibilities. In proportion to the exercise of such possibilities, it is safe to say the disease would disappear, and if perfect the disease would be wholly prevented—at least, it could never spread.

13. Yes.

GEO. MCNAUGHTON, M.D.—

This brief will be confined to the consideration of laryngeal diphtheria, and at the outset would like to state that it is my belief that all cases of croup presenting a pseudo-membrane are diphtheritic, and should be so treated.

In the past two years I have seen nearly sixty cases of laryngeal diphtheria, and am thoroughly satisfied that we are brought into contact with no worse form of disease than this; the mortality is high and the suffering of these patients is fearful. I do not agree with Dr. Rushmore in his statement that death is usually painless and easy, it is of course true that these patients usually become comatose some hours before death, and during that time are not conscious of suffering, but they are practically dead before that stage is reached, the tossing of the patient from one side of the bed to the other, clutching the throat, sometimes with both hands, the anxious look and the efforts which they make to get sufficient air to properly oxygenate the blood, are sufficiently familiar symptoms to convince me that they suffer very much.

Heretofore very few patients have recovered without intubation or tracheotomy in whom the symptoms of laryngeal stenosis have been marked I believe we have a good treatment for this condition in the method suggested by Dr. Corbin of this city. I refer to calomel sublimate, and believing that the history of these cases will be interesting I will give them in as few words as possible.

Case I.—Girl, æt. 8 years. Patient had pharyngeal diphtheria and was in a very low condition when croup developed.

Dr. Charles Jewett the attending physician after trying steam inhalation, and large doses of calomel internally, suggested that intubation be done. The father of the patient who is a physician came after me to intubate, I told him of Dr. Corbin's success and suggested that such treatment be tried, which was done, the treatment being carried out thoroughly.

I called to see patient next morning and was gratified to notice that the child was getting a good supply of air without very much effort. She had occasional attacks of coughing and during one of these paroxysms she expelled a piece of membrane. This treatment was kept up several days, the intervals between each inhalation being determined by the symptoms. At first forty grains every three hours, then every five or six hours. If the cough became tight the fumigation was resorted to. It was noticed that the treatment always loosened the cough.

This patient recovered slowly, the voice not being entirely regained until a month afterwards.

Case II.—Æt. 1 year, 10 months. Croup three days, pharyngeal diphtheria, six days. I was sent for to place tube in the larynx. Child very ill. Surroundings bad. Family willing but ignorant and poor; I inserted tube, result not satisfactory. I therefore withdrew it, its removal was followed by considerable membrane. As the breathing became easier, I concluded not to reinsert the tube, but to try burning calomel. An ordinary spirit lamp was procured, a piece of sheet iron served the purpose of a pan upon which to burn the drug. The sublimate of twenty grains each time was repeated every three hours, and this was kept up for twenty-four hours when the child was so much better that the parents on their own responsibility discontinued the treatment. This child choked up a second time and the same method was resorted to. In this case there was no stomach medication whatever, and the child made a rapid recovery.

Case III.—Patient, æt. 3 years. Croup untreated three days, patient of Dr. F. W. Shaw. At the time I saw this child she was suffering extreme dyspnœa. Vesicular breathing entirely absent over lower part of the lungs.

I am sure that any one accustomed to doing either intubation or tracheotomy would have considered operative interference imperative in this case. However, we concluded to try calomel fumigation. Dr. Shaw was present at every treatment, this patient slowly recovered.

Dr. Belcher had two cases in same family, both treated by this method and both got well.

Dr. Sullivan has now a patient under this treatment, and the indications are that she will recover, the laryngeal symptoms having subsided. This patient had an attack of pneumonia during treatment, had this complication occurred after tracheotomy or intubation we probably would have thought the operation had caused it, and this goes to prove that these operations should not always be blamed for this inflammation taking place during the run of the disease.

Dr. Corbin has reported thirty cases, twenty-five of which terminated in recovery. I have seen two deaths occur under this treatment; but the treatment was commenced late, and both were saturated with the special poison sufficiently to cause death.

If the good results obtained by this method of treatment were entirely due to the calomel, it would be equally efficacious in other forms of diphtheria, which it is not. I think part of the good results may be justly ascribed to the heated air. I have not had a chance to try hot air without any drug, but think such an experiment worthy of trial.

In making use of this method care should be taken by the attendants not to inhale the fumes, as in one or two instances mercurial poisoning has been produced.

I do not know that any of the poisonous effects of mercury have been noticed in the patients treated by it, but would not be surprised if it occasionally occurs.

I have done intubation of the larynx fifty-four times; the youngest patient, nine months old; oldest, nine years. Have had six recoveries, seven if I count one that died of paralysis several days after removal of the tube. Believe all to have been cases of diphtheritic laryngitis. Many of these were operated upon when moribund.

Several times physicians who had been accustomed to perform tracheotomy have suggested that operation, but parents refused until just before death, when the physician, believing tracheotomy of no use, concluded to try intubation.

I mention this to show that the cases which have come under my observation have not been picked, favorable cases, but, on the other hand, might be called picked, unfavorable cases.

Yet of fifty-four, six got well. It is true that I have several times been greatly disappointed in seeing apparently favorable cases quickly go the other way.

The greatest objection to the O'Dwyer tube is the difficulty which patients experience in swallowing. Very few are able to perform this act without a distressing attack of coughing following each effort.

Dr. Waxham, of Chicago, has arranged a metal epiglottis, which he claims to be a great improvement over the original O'Dwyer tube, and that patients can swallow more easily.

The operation of intubation requires some skill, and should not be attempted until the operator has acquired familiarity with the instruments and a good knowledge of the anatomy of the throat.

If one is called upon to do one or the other of the operations, and has done neither, I would advise tracheotomy. I think his chances of success would be better. In spite of what many say to the contrary, I think these two operations compete. If tracheotomy had been a satisfactory procedure, intubation would not have been tried.

Dr. O'Dwyer was a discouraged tracheotomist, therefore his work in connection with intubation.

Of 1,024 tracheotomies collected by Jacobi, 21.48 per cent. recovered.

Dr. Stern, of Philadelphia, reports a large number of cases of same, and 26.40 per cent. recovered.

Dr. Waxham, of Chicago, collected 1,072 cases of intubation, 26.70 per cent. recovered.

Of patients under five years of age, a much larger per cent. recover after intubation than after tracheotomy. As near as I can judge, statistics show about the same per cent. of recoveries, but, on the whole, a little in favor of intubation.

This shows well for a new operation, and I expect, as improvements are made in the instruments, the results will be correspondingly better. As the matter stands at present, if I am called to attend a case of diphtheritic laryngitis, I will treat it as follows:

Will first try calomel sublimations; if the dyspnœa increases and mechanical relief becomes imperative, I will intubate, and by so doing will feel that I am giving my patient the best chance to get well.

NEW BOOKS AND PAMPHLETS.

HUNTERIAN LECTURES ON TENSION, AS MET WITH IN SURGICAL PRACTICE, INFLAMMATION OF BONE, AND ON CRANIAL AND INTRA-CRANIAL INJURIES. Delivered before the Royal College of Surgeons of England, June, 1888. By Thos. Bryant, F.R.C.S., M.Ch. (Hon.), Roy. Univ. I., Consulting Surgeon to Gray's Hospital, etc., etc. London: J. & A. Churchill, 11 New Burlington Street, 1888.

We are inclined to think that all—we are certain that one—of these lectures have already appeared in print in the English periodicals. That does not, however, forbid their publication in book form, nicely set in good clear type and neatly bound. The subject matter is unquestionably of sufficient practical interest to surgery to make it desirable to have the lectures at hand for reference and study. The plea for the relief of tension in wounds is almost unnecessary among the best surgeons of this country; but there are good surgeons who, carried away by their enthusiasm (in itself right enough, perhaps), for antiseptics, believe that the only requisite to insure immediate union and a perfect result after operating is to use bichloride in any strength from 1 to 1,000 to 1 to 30,000, and antiseptic dressings; and we are not surprised to hear Mr. Bryant say: "It is to prevent tension and its evil effects that the drainage of deep, indeed of all wounds, is of such primary importance."

Another excellent point to remind us of we cannot recall better than in his own words: "I should like from this Chair to repeat what

I have been long teaching, and what modern surgery has done so much to inculcate, that repair and inflammation are not only not identical but incompatible; that repair is a physiological constructive restorative process, whilst inflammation is a pathological destructive one."

We cannot refrain from quoting a little more extensively. He says: "In fact, the influence of tension upon the repair of wounds, both as a cause of inflammation as well as a source of its persistency, supports, if it does not prove, the following conclusions which the considerations of tension associated with other conditions has led me to draw:

1. That tension has a wide pervading influence in clinical surgery, as well as a decidedly marked effect upon the progress of disease.

2. That it is the product of many causes, that those for clinical purposes may be conveniently divided into the inflammatory and uninflammatory.

3. That it stands foremost among the causes of pain, and in inflammatory affections it is probably the chief pain factor.

4. That when the causes are not inflammatory, the tension to which they give rise will, if maintained for any time at a less level, or rapidly rising to a high level, excite inflammation in the tissues affected.

5. That, where the cause is inflammation, the tendency of tension is to keep up or intensify the inflammatory action, and strongly to encourage its destructive influences.

6. That tension in every degree has a destructive tendency, and the rapidity of the destructive process has a direct relation to the acuteness of the tension.

7. That, as in wounds the slightest degree of tension is injurious, so, in their treatment, the use of the drainage tube, or due provision for complete drainage is a point of such primary importance as to relegate to a secondary position the character of the dressing which is employed, since a want of attention to the efficient drainage of a wound under every form of dressing is followed by the same result."

There is nothing surprisingly original in these conclusion, but they are very valuable, first because they are clearly stated, and next because they come from such a high authority. If the argument is good for soft tissues it is a *fortiori* sound for bones and intra-cranial injuries.

We can heartily commend the lectures as a source of good and practical information, the more so, as he gives cases good and bad, with the treatment and the result of the treatment to substantiate the *rationale* of his deductions.

We do not recall a single typographical error from the title page to the conclusion.

SAUNDER'S QUESTION COMPENDS.

ESSENTIALS OF ANATOMY. Including *visceral anatomy.* Over three hundred printed pages, with one hundred and seventeen illustrations. By Charles B. Nancrede, M.D., Senior Surgeon to Episcopal Hospital; Surgeon to Jefferson College Hospital, etc.

ESSENTIALS OF MEDICAL CHEMISTRY, Organic and Inorganic, Containing also Questions on Medical Physics, Chemical Philosophy, Analytical Processes, Urinalysis, and Toxicology. By Lawrence Wolff, M.D., Demonstrator of Chemistry to Jefferson Medical College; Visiting Physician to German Hospital of Philadelphia, etc., etc.

ESSENTIALS OF OBSTETRICS. By W. Easterly Ashton, M.D., Demonstrator of Clinical Obstetrics in the Jefferson Medical College, and Chief of Clinic for Diseases of Women in the Jefferson Medical Hospital. Philadelphia: W. B. Saunders. 1888.

We have already had occasion to say some good words in regard to one member of this new series of compends; and we are now prepared to repeat the same and congratulate the publisher on not disappointing us in the high expectations we had entertained by a perusal of the first number—the ESSENTIALS OF PHYSIOLOGY.

The publisher says: "Manuals of this kind are in no way intended to supplant any of the text-books, but to contain, as its title declares the essence of those facts with which the average student must be familiar." Viewed in such a light, the present series, in its whole preparation—content, typography, illustrations and binding—deserves the large support that it will undoubtedly get from medical students. We are not so sure of the advisability of reducing everything to the form of a question, though there are good reasons for putting many facts to be brought out in such a form; but if the purpose is ideal compactness, which is at the same time compatible with accuracy, it would have saved space and time to go ahead with the description *(exempi gratia)* of the femur, or one of the carotids, etc., etc., without saying, "Describe the femur," etc., "Describe the internal carotid?"

Naturally the medical student is the one to whom compends are most serviceable; but at the same time it is the student to whom they are apt to do most injury. The reason is plain: he cannot have it sufficiently impressed upon his mind that they are not text-books, not complete expositions of the subject, not books from which to seek information at the outset, but books to gather together in a composite and tangible whole, information acquired by an assiduous and arduous study of text-books and by attention to lectures.

Now as to the publisher's part we have this to suggest: It is much better to have the outside, of all, uniform; to give on the book, in gilt, the subject of the volume; not to have stamped on the boards in one case "Saunder's Question Compends," and, lower down, the title;

in another, no title—but in gilt across the cover, "Saunder's Question Compends"; and in still another the name of the series and the title of the book in gilt. This, of course, from an artistic or æsthetic standpoint, does not in any way effect this excellent series of manuals. The uniform price is cloth, $1.00; interleaved for taking notes, $1.25.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM. By Wm. Allingham, F.R.C.S., Senior Surgeon to St. Mark's Hospital, etc. Edited and Revised with much additional new matter and numerous diagrams by Herbert Wm. Allingham, F. R. C. S., Surgeon to the Great Northern Central Hospital. Fifth Edition. London: J. & A. Churchill, 11 New Burlington Street. 1888.

Not until the practitioner is brought face to face with a troublesome disease of the rectum is he apt to appreciate the small amount of really practical information on this subject that he finds in the general treatises on surgery. This fact has long since been appreciated, and the fifth edition of Dr. Allingham's book is *prima facie* evidence that the volume has been satisfactory to a large number of surgeons. If there were need of further testimony as to the advisability of having some reliable treatise an these diseases it would only be necessary to allude to the fact that in no other field of surgery do charlatans reap such a rich harvest as in this. And why? Simply because practitioners neither know nor will take trouble to get reliable and intelligent information on the subject, and dilly dally, and unsuccessfully for a long time treat some simple rectal trouble that a quack will come along and cure in a few weeks.

Another factor in the indifferent success attending the treatment of rectal diseases (and this is quite as true of many other affections) is unquestionably the reluctance on the part of the patient to be examined and the indifference of the surgeon as to the necessity of an examination. But, to return to the book itself we may say first of all that it is for the most part thoroughly practical, sensible and satisfactory. One disagreeable feature is the repeated and continual specialization of Allingham Sr's. this and Allingham Jr's. that. Indeed the *ego* throughout the book looms up with unnecessary and offensive prominence. The book begins (after an introductory chapter on the "commoness—a better word could have been chosen—of rectal diseases,") with a chapter on the "Examination of patients," in which there is nothing especially original. The chapters on fistula in ano are well done; those on hæmorrhoids are better and perhaps the best in the book. Some of the other subjects considered are (besides complications either resulting from operative treatment on the existence of those already mentioned) procidentia recti, polypus recti, pruritus ani, fissure. and painful irritable ulcer, stricture, cancer and the subject of colotomy,

The type is well set but the cuts are exceedingly poor from an artistic standpoint, though good enough to give an idea of what is meant. Altogether the book is useful if not ornamental and deserves the large patronage it has received.

HANDBOOK OF HISTORICAL AND GEOGRAPHICAL PHTHISIOLOGY. With special reference to the distribution of consumption in the United States. Compiled and arranged by George A. Evans, M.D., Member of the Medical Society of the County of Kings, etc. New York: D. Appleton & Co., 1888.

A careful reading of the title will give an accurate idea of the content of this little volume of three hundred pages. Perhaps the author's statement in the opening sentences of the preface may amplify this knowledge. He says: "In the following volume I have attempted to present a sketch of the development of our knowledge of pulmonary consumption from the time of Hippocrates up to the present day, together with the ascertained facts regarding the geographical distribution of that affection. It has also been my effort so to arrange the statistics in regard to the geographical distribution of consumption in the United States, as to make them available for convenient reference in selecting localities of resort or residence for invalid, and also for those who are in health."

Such is the nature of the book, and the work is well done. To those in quest of such information the volume is a valuable source from which to gather instruction.

It may be well to add the author's sanguine conclusion as to the treatment and the result: "The writer believes that the *respiration of antiseptic air by phthisical subjects* will be found, in the future, to be as successful in the treatment of consumption as typical antiseptic influences have been in the treatment of external surgical affections." May he not be disappointed! At least the indication is the rational one, and it is to be hoped that the means will be forthcoming to fulfil the same in treatment.

THE VEST POCKET ANATOMIST. (Founded upon "Gray.") By C. Henri Leonard, A.M., M.D., Professor of the Medical and Surgical Diseases of Women and Clinical Gynæcology in the Detroit College of Medicine. *Fourteenth Revised Edition*, containing 193 Illustrations, "Dissection Hints" and Visceral Anatomy. Cloth, 12mo., 304 pp. Price, $1.00. Illustrated Medical Journal Co., Publishers. Detroit, Mich.

The new fourteenth edition of this work has been increased in size by the addition of over one hundred pages of text and one hundred engravings. The page of the book has also been somewhat enlarged to accommodate better the engravings. The brain and its membranes, the eye, ear and throat—in fact, the entire viscera and the generative organs of both sexes—forms the new subject matter in this edition. Besides being a very popular dissecting-room companion, it has become also a very popular surgical-case companion for the practitioner, since the illustrations show at a glance (being photo-engraved from the English cuts of Gray) the positions of all the important blood-vessels, nerves, muscles and viscera.

The paper and illustrations might both be considerably improved without much additional cost or trouble, and this would make this little book even more appreciated than the *fourteenth edition* shows it to have been.

SECOND ANNUAL REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA. Transmitted to the Governor, December 1, 1886. Harrisburg: Edwin K. Meyers, State Printer, 1887.

Though the name of Dr. Benjamin Lee, the Secretary, does not appear on the title page, it is doubtless largely due to his efforts and energy that the present volume of over 1,000 pages has been prepared and presented to the public. The Report is a remarkable compilation of papers, statistical and otherwise, written by the physicians and surgeons of the State. For its statistical data with reference to the distribution of phthisis in the State, the physicians will be especially grateful; for the compilation of the laws relating to the practice of medicine, etc., in Pennsylvania, it will be invaluable to the members of the profession not only in Pennsylvania but in other States; and for the charts, tables and amount of general information it contains, it should be a source of pride to the Board, and of gratification to any physician. We congratulate the Board on its remarkable Report and commend its work to the Boards of other States as a splendid specimen of work to be emulated and imitated.

WE have just received Lindsey & Blakiston's "Physicians' Visiting List for 1889."

Besides the space for the record of daily visits, it contains many useful hints which cannot fail to be of practical value to the busy practitioner in his daily work.

For instance, it contains different methods for making artificial respiration; a very complete list of poisons and their antidotes; the metric system of weights and measures; a list of the doses of the different medicines; a list of new remedies, and an epitome of the disinfectants and their mode of application as advocated by the American Public Health Association.

It also contains blank spaces for vaccination and obstetric engagements, a space for keeping cash accounts, and a table for estimating the date of confinement.

It is kept by a system of ciphers, which certainly is one of the most labor-saving ways of helping physicians' daily accounts that we have ever seen.

It is gotten up for any number of patients, from twenty-five to a hundred a week. We would advise any one who wants an accurate and concise method of keeping a record of his daily visits to give this little book a trial. Philadelphia: P. Blakiston, Son & Co. Price, $1.00 to $2.00.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By H. C. Wood, M.D., LL.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System in the University of Pennsylvania.

A work on medical agencies, drugs and poisons, with especial reference to the relation between physiology and clinical medicine.

The Seventh Edition of A TREATISE ON THERAPEUTICS. Rearranged, Rewritten and Enlarged. Philadelphia: J. B. Lippincott Company. London: 10 Henrietta Street. 1888.

This admirable book has reached us too late for a review in this issue. We had almost said that a book so well known to the profession at home and abroad needs no review in this journal; but it is our pleasure and our duty to lay before our readers the merits and demerits of a work, and it is our purpose and effort to always follow the maxim, *Justitia fiat, coelum ruat.*

We will try to give in our next issue the new features of this new edition and other points that may suggest themselves as being of interest in regard to the work.

CLINICAL LECTURES ON DISEASES OF THE URINARY ORGANS. Delivered at University College Hospital by Sir Henry Thompson, Surgeon Extraordinary to His Majesty the King of the Belgians, etc. Eighth Edition. London: J. & A. Churchill, 11 New Burlington Street. 1888.

[Review in next issue.]

"State Board of Health Bulletin." Nashville, Tenn.

"Report of the State Lunatic Asylum." Austin, Texas.

"Annual Announcement University of Michigan, Department of Medicine and Surgery." Michigan.

"Failure of Dr. J. B. Thomas' Treatment of Urethral Structure," etc. Robert Newman, M.D.

"Why Electrolytic Treatment of Stricture does not Succeed in all Hands." G. C. H. Meier, M.D.

"Treatment of Cystic Goitre." T. Mark Hovell, M.D.

"A Case of Extra-Uterine Pregnancy." A. H. Buckmaster, M.D.

"Yellow Fever Panic." J. C. McHardy, M.D.

"Report on Hydrophobia." C. W. Dulles, M.D.

"Mineral and Thermal Springs of California." W. F. McNutt, M.D.

"Eczema: Its Treatment." A. E. Carrier, M.D.

"Preferable Climate for Phthisis." Chas. Denison, M.D.

"Ultimate Finance." W. N. Black, M.D.

"Some Advantages of the Union of Medical School and University." William H. Welsh, M.D.

"Proceedings of the Society for the Study of Inebriety."

"Double Chorio-Retinitis, with Partial Degeneration of Optic Nerve," etc. Chas. A. Oliver, M.D.

"American Pediatric Society."

PHARMACY AND THERAPEUTICS.

RATIONAL SELECTION OF THE SALTS OF SALICYLIC ACID FOR THERAPEUSIS (W. A. Cauldwell, M. D., Chicago, Ill.).—The word *rational* is used in contradistinction to empirical. When a certain compound is selected for no other reason than because others have used it with success in similar troubles, such selection is empirical. But when our reasons for the selection of a compound to fill an indication for treatment are obtained from a knowledge of chemistry, physiology, and pathology, then the selection is said to be rational.

There are now quite a large number of compounds of salicylic acid used in medicine, and the number is being increased every year, and chemistry shows us that there are still hundreds of other combinations possible only awaiting the manipulation of the chemist. Among those at present on the market for use in medicine may be mentioned the salicylates of sodium, lithium, ammonium, potassium, magnesium, bismuth, mercury, iron, zinc, quinine, eserine, phenol, methyl, propyl, betanaphthol, etc.

These salts do not have the same action, hence it makes considerable difference which is selected to produce a certain effect.

In presenting the basis for rational selection of these compounds I will—

First.—State briefly and without discussion some of the probable actions of the radical salicyl when brought in contact with the tissues.

Second.—*Assume* the truth of certain propositions giving the general laws of compounds modifying the actions of drugs on the animal organism in health and disease, and then—

Third.—Base the rational selection of the salicylates on these general laws and the action of the radical salicyl.

ACTIONS OF SALICYL.

The probable actions, so far as is known of the radical salicyl on living tissues when brought in contact with them and is free to act, are as follows:

I.—First-Contact Actions.

1. It hinders the action of all the enzymes of the gastro-intestinal tract and hence produces indigestion. It also acts on bacteria, one per cent. to ten per cent. prevents their development, hence it is an antiseptic.

2. It is an irritant to mucous membranes, and produces nausea and loss of appetite not only by irritation, but also by interfering with the digestive enzymes.

3. When applied to skin-lesions and to wounds it not only acts as an antiseptic but probably favors the healing process by its action on the white corpuscles.

Prudden has shown that solutions of salicylic acid, $\frac{1}{1000}$ to $\frac{1}{4000}$, possess an inhibitory power over the amœboid movement and the capacity for emigration of the white blood cells, hence he thinks that it is extremely probable that a part of the favorable action of salicylic acid in healing of wounds is due to the reduced activity of the white corpuscles.

II.—Elimination-Contact Actions.

When salicyl is exhibited in an absorbable compound (at least those at present known) it is eliminated through all the glands of the body in whose secretions it is soluble, and in that way comes in contact with certain structures and acts on them. A large part passes out through the kidneys, where it causes more or less irritation. Cases of dangerous albuminuria have been reported, hence it should be given with caution when the kidneys are affected. It increases the water and the solids of the urine.

Huber observed a marked increase of urine in twenty-one out of twenty-five cases of acute articular rheumatism. There is often such profuse diaphoresis that the diuretic action, it seems, might be sometimes masked. In the cases of phthisis and typhoid fever, to whom Huber administered salicylic acid, the increase of urine was very slight. This may possibly be partly due to there being less water in the bodies of the emaciated.

It is also partly eliminated through the salivary, gastric, and intestinal glands, and it is probable that its action at this time is a factor in producing the nausea and loss of appetite which accompany its exhibition for any length of time. It is also eliminated through the sudoriferous glands.

I have seen no record of any experiments to determine how far the copius perspiration it excites is due to local action in the glands during elimination, or to action on the central sudoriferous nervous mechanism.

III.—Circulation-Contact Actions.

1. *Action on the Circulatory Mechanism.*—A small dose increases the blood-pressure by stimulating the motor ganglia of the heart, increasing its force and frequency, and by acting on the vaso-motor centre contracting the arterioles; however, if the dose is larger, sufficient for therapeutic purposes in acute rheumatism, instead of stimulation, there is depression of this mechanism. The blood pressure is lowered by dilatation of the arterioles and failure of the heart.

2. *Action on the Respiratory Mechanism.*—At first the breathing is quickened by stimulation of both the respiratory centre and the pul-

monary vagus ends, but later depression follows and the breathing is slowed and may become dyspnœic.

3. *Action on the Cerebro-Spinal System.*—Very little is known about this. It circulates in the cerebro-spinal fluid, and possibly considerable of its action on these structures is due to this. It depresses the functional activity of the spinal cord. Its action on the cerebrum is in some respects similar to quinine.

4. *Action on Metabolism.*—At present there is no exact knowledge of its action on cellular metabolism. It increases nitrogenous waste in dogs to whom it is given. Animals taking it for some time emaciate. This may be due in part to its action on the digestive enzymes. It is also possible that cellular metabolism is carried on by enzymes, and that salicyl arrests their action just as it does the action of the known enzymes of the digestive tract.

Large doses given for any length of time produce profound anæmia. Prudden has shown that $\frac{1}{4000}$ produces grave changes in the red corpuscles. It in some way increases the excretion of urea and uric acid. This is very marked at first in rheumatism. In gout excretion of uric acid is increased.

5. *Action on Certain Pathological Conditions.*—It probably circulates in the blood as a salt, possibly as salicylate of sodium. Of course, while it remains a salt it does not act, as only the radicals of a compound act, not the compound. But if any agent should decompose it the nascent radical salicyl would be active as an antiseptic, and possibly in a number of other ways. It has been supposed by some that the way it acts in acute articular rheumatism is that the carbonic acid in the inflamed joints liberates the salicyl from the sodium, which then in its nascent state acts upon the bacteria (?) of rheumatism. This, however, is yet an unsupported hypothesis.

Excess of uric acid in the organism is probably "mainly due to disturbed retrograde metamorphosis" somewhere and in some way. Alexander Haig has made some experiments to show the influence of salicylic acid on the excretion of uric acid. He says that while acids usually diminish the excretion of uric acid by rendering it less soluble, salicylic acid increases its excretion by forming salicyluric acid, which is far more soluble, and hence more rapidly eliminated. In this way he explains how salicylic acid removes that form of headache supposed to be due to the irritation of excessive quantity of uric acid in the blood. However, it must be remembered that salicylates are of little service in gout.

M. Robin proposes to treat the typhoid condition with salicylic acid, because in this condition the organism is overcharged with incompletely oxidized waste, which is but slightly soluble in the fluids of the body, and hence is eliminated slowly. He thinks the salicylic acid combines with the waste, such as glycol, forming salicyluric acid, which is very soluble and rapidly eliminated. No one will doubt that a drug which will render more soluble the large and dangerous quantity of waste with which the organism is loaded in the typhoid state would be of great service in its treatment, provided it did not possess other and injurious actions which of themselves would jeopardize the life of the patient. Salicyl may render more soluble the accumulated waste and hasten its removal from the body, but it seems to me that the experiments of Prudden on its action on the red corpuscles, and its action on animals in producing emaciation when given to them for a long time, and the almost universal clinical experience of its great depression of circulation and profound derangement of digestion, and especially in the typhoid state, where the digestive glands are starved and their secretions dried up, that is entirely unfitted to fill the indication for removal of the waste which is fast destroying the life of the patient. Chemists and therapeutists should search for a drug which will render these products soluble and secure their rapid elimination from the organism, but it should be devoid of those untoward actions which salicyl possesses.

Jaksch believes that salicyl acts as a specific in scarlatina and puerperal fever as much so as in rheumatism. Grabham, Hillaby, and others in England believe that it has a specific action in tonsilitis. In health it has very little power to reduce temperature, but in fever it is a powerful antipyretic. At present nothing is known of how it acts on the thermogenetic mechanism

Bearing in mind the normal and morbid physiology of the animal organism, the above actions show that salicyl has several useful actions, but also a number which are equally injurious. It is useful in certain morbid conditions because it retards microbic growth, lessens certain pathogenic processes, promotes nitrogenous excretion, but at the same time it must not be forgotten that it arrests the action of the digestive enzymes, deranges cellular metabolism, irritates the kidneys, and depresses the action of the circulatory and respiratory mechanisms. In certain diseases the salicylates are indicated, and if the patient is strong enough to stand the damage to digestion, etc., then they are of service; but if the patient is pale, anæmic, and emaciated, they may sometimes do harm, because the system cannot stand any further depression of these powers. Hence in phthisis, delicate rheumatics, and during the latter stage of the typhoid they often do harm.

The *assumed* propositions may be formulated as follows:

1. Compounds do not act upon the tissues, but the radicals of which they are composed.

2. Compounds insoluble at a certain point cannot enter the circulation from that point, hence—

(1) Compounds insoluble in dilute acids and in the presence of pepsin cannot be absorbed from the stomach during gastric secretion.

(2) Compounds insoluble in dilute alkalies and in the presence of duodenal ferments will be precipitated on entering the duodenum, and cannot be absorbed from there.

3. Compounds insoluble at a certain point are usually non-irritant at that point.

4. Drugs can only act on the tissues when in contact with them (action transmitted over the nerves is not considered here), hence :

(1) Insoluble compounds can have only a local action.

(2) Absorbable soluble compounds can act both locally and at other points after entering the circulation.

5. The compound affects the action of the drug on the organism :

(1) By determining the solubility, absorbability, diffusibility and stability.

(2) By the action of the other radical.

When a radical is combined with another for therapeutical use, some of the reasons are :

1. To secure its local action only, when its action after entering the circulation would be of no use and might be toxic. This is accomplished usually by forming a compound insoluble in the menstruum.

2. To render it absorbable so that it can enter the circulation and act at various points where it is carried by the blood-stream.

3. To prevent injurious local effects on the mucous membrane or on the digestive ferments. The action of a certain drug may be indicated to act after entering the circulation, but the compound may be such that at point of absorption it produces so much disturbance that it cannot be used.

4. To render it absorbable from a certain point. For certain reasons sometimes it is desirable to have the drug absorbed entirely from the stomach or entirely from the duodenum.

5. To secure the action of the other radical.

With these data I am now prepared to consider from a rational basis the therapeutic value of the various salicylates now on the market, and their adaptability to fill certain indications for treatment in disease. The classification of these salts which I will use here is simply for convenience of presentation, as in nearly every case the combination is for more than one purpose, and hence would necessitate repeating them several times were I to follow the indications for combination given above. So I will arrange them according to the most important indications for combination, and which may be briefly stated as follows :

1. To prevent unpleasant action on the stomach. Example of which is salicylate of phenol.

2. To secure local action. Example, salicylate of bismuth.

3. To secure action after entering the blood. Examples, salicylates of sodium, lithium, ammonium, methyl.

4. To secure action of another radical. Examples, salicylates of mercury, iron, magnesium, eserine and quinine.

SALOL.

In rheumatism and other diseases the exhibition of the radical salicyl is indicated to act after entering the blood. But when given as salicylic acid by mouth it soon produces serious disturbance of the stomach. To obviate this, salicylate of sodium was made, which is less irritant to the stomach, but still objectionable.

Next, chemists began to look for a salt which would pass through the stomach undissolved and without irritation into the duodenum, and from there enter the circulation.

Salicylate of phenol or salol is the result of these investigations.

Salol is insoluble in the acid gastric juice, but after entering the alkaline duodenum it is split up into carbolic and salicylic acids, and the salicyl probably enters the blood as salicylate of sodium.

Sahli and Nencki believe that salol is decomposed by the pancreatic juice, by the alkaline carbonates, by bacteria, and by inert organic matter.

Lombard, from experiments made on animals, concludes that the quantity of salol absorbed depends on the quantity of pancreatic juice present in the duodenum, and that if there is an excess of salol it will pass out of the body undissolved. He says if the pancreatic duct is tied, salol is not absorbed. If this be true, it may explain why salol sometimes is not effective, and also suggests how to secure its absorption.

In diseases where there is little pancreatic juice secreted, and when pancreatic secretion has ceased after duodenal digestion is finished, and where the fever patient takes very little food to excite pancreatic secretion, salol would be very slowly absorbed; hence, pancreatin, bicarbonate of sodium, at such times might aid its absorption, but they should be given later, as they would have a tendency to split it up in the stomach. Food also would aid its absorption, but the broken up salol would interfere with duodenal digestion.

Sievers and Ewald, after ligaturing the pylorus of a dog and rendering the stomach alkaline by large doses of bicarbonate of sodium, then introducing salol into the stomach, found its components in the urine, showing that the acids had entered the circulation from the stomach. This suggests that in certain pathological conditions of the stomach and during gastric rest, when the mucous membrane is alkaline, salol may be decomposed in the stomach, producing nausea, just as salicylic acid. But the fact that it may be decomposed by the secretion from the mucous glands of the stomach makes salol of great service in that condition of excessive mucous secretion called gastric catarrh. For this condition salol is better than the acid or sodium salt, because it is insoluble till it acts on the mucus, while the others are soluble and free to act on the mucous membrane, and also enter the circulation, where it is not indicated. The carbolic acid, of course, is also of service.

It seems to be a tolerably general experience with clinicians that salol also in time produces some nausea, though much less than the acid or sodium salt. The nausea may be due in part to reflex irritation from the duodenum, but very likely the action of the salicyl in elimination contact in the stomach and salivary glands is the main factor, except when it is decomposed in the stomach.

Any compound of salicyl which is eliminated through the glands of the stomach will likely produce some nausea. It also seems to be the experience of a great many that salol is a little slower in its action than salicylate of sodium, and this might easily be inferred, for very little absorption takes place till it reaches the duodenum ; the absorbing surface is limited to the duodenum, and, besides, it has to be split up first, which process at times may progress slowly.

Some of the various uses of salol are:

1. To remove certain morbid materials from the system. It of late has been used in preference to the alkaline salicylates to act after entering the blood, in acute and chronic rheumatism, myalgia, sciatica, wry neck, certain forms of neuralgia, and headache due to excess of uric acid. I have lately given salol, twenty grains every two hours till relieved, to two patients suffering from this kind of headache. They felt better in two hours, and three or four doses a day entirely relieved them.

Rosenberg thinks, so far as its systemic action is concerned, that the carbolic acid is a drawback rather than an advantage on account of the carboluria.

2. To act as an antiseptic in the intestinal canal. Herlich some time back suggested that it was a feasible way to introduce carbolic acid into the intestine; hence in this age, when microbes are believed to be the cause of most intestinal troubles, it was not long before it was used for intestinal catarrh, tuberculous ulcers, diarrhœa and typhoid fever. Dr. O. T. Osborne reports a large number of cases of diarrhœa which he has treated successfully with salol. Dr. Eichberg, of Miami Medical College, says that while salol is of service in diarrhœa, yet its antiseptic action seems to pass off rapidly, so that often it became necessary in the cases he treated to resort to other remedies. The decomposition, he thinks, takes place so high up in the canal that the acids are absorbed before reaching the lower part of the canal.

It seems to me that salol would not be of much service in treating lesions of the colon except by injection per rectum. Dr. James Barnsfather reports good results in typhoid fever from its use in three grain doses every three hours. He thinks it has a powerful action on the ptomaines in the intestinal canal. Professor Jaccoud says it often increases the delirium of typhoids. Others report that it especially deranges the stomach in typhoid fever.

It seems to me that its interference with digestion, its production of anæmia and deranged metabolism, would more than balance its advantages as an antiseptic in the intestinal canal of the weak and emaciated typhoid.

3. To act as an antiseptic in cystitis and pyelitis. Fielchenfeld found salol of great service in catarrh of the bladder, rendering the urine acid, increasing the urinary secretion, and diminishing the pus. It is said to be of great service in myelitis, with paralysis of the bladder and alkaline urine.

4. To act as an antiseptic in the treatment of wounds, ulcers, etc. There is difference of opinion as to the antiseptic power of salol. Nencki believes that it is as pronounced an antiseptic as salicylic acid.

To determine its antiseptic action, M. Pinet has introduced equal quantities of salol and salicylic acid respectively into test-tubes containing putrid fluid from a frog's leg. He reports that the salol does not arrest the process, but that the salicylic acid does. There is no doubt that salol is an antiseptic when it is decomposed, and equally true is it that it is not an antiseptic when it is not decomposed. It is the same with iodoform—if it does not decompose it does not act. It is probable that pus and the discharges from wounds slowly decompose salol, hence it is a mild, continuous antiseptic, not so active as salicylic acid.

5. To act as an antipyretic. There are other drugs more powerful than salol, and without the injurious actions, hence, with the exception of its use in rheumatism, it is very little used as an antipyretic. Later, and in another paper, I hope to be able to present some experiments on the absorption of salol.

SALICYLATE OF BISMUTH.

The salicylate of bismuth, like the sub-nitrate, is almost insoluble in the intestinal canal, hence its action is local. Dr. Hale says it is of great service given in ½ drachm doses every two hours in inflammatory affections of the gastro-intestinal tract. He reports good success from its use in diarrhœa of phthisis, cholera morbus, acute dysentery, diarrhœa of enteric fever, and dyspepsia with acid eructations. He thinks its action is astringent and antiseptic. Ehring gives the salicylate of bismuth in intestinal catarrhs of infants. He considers its action astringent and antiseptic, arresting fermentation. Solger has treated with salicylate of bismuth a great many cases of chronic diarrhœa, intestinal catarrh, and diarrhœa of phthisis. He thinks that it is not simply the astringent power of the bismuth, but also the antiseptic action of the salicyl. He says large doses do not irritate the stomach. It is probable that very little, if any, of the salicyl enters the circulation. It would seem, though, that there must be chemical decomposition for the radical salicyl to act as an antiseptic.

SALICYLATES OF SODIUM, LITHIUM, AMMONIUM AND POTASSIUM.

These salts are so well known that I shall only mention them. They are all soluble and readily enter the circulation in large part from the stomach. After entering the circulation each base has its own specific action. Vulpian is said to regard the lithium salt as better than the sodium salt in chronic rheumatism on account of the action of the lithium. Dr. Fliesburg, of Hudson, Wisconsin, speaks very highly of salicylate of ammonium in pneumonia, capillary bronchitis, and the zymotic fevers. However, I think there are other antipyretics far better in such diseases.

So far as the salicyl is concerned, it acts in this salt just as it does in the others of this group. And it seems salicyl has so many injurious actions that it is unfitted for such cases, while if ammonium is indicated it can be easily administered. Salicylate of ammonium might be exhibited in acute rheumatism where ammonium is indicated. The salicylate of potassium probably is inferior to the sodium salt, because it is known that large quantities of potassium paralyze muscle.

None of these salts are antiseptic either in the gastro-intestinal canal or in the blood-stream.

SALICYLATES OF METHYL AND PROPYL.

Dr. H. C. Wood says when salicylate of methyl is introduced into the organism CH_2 is removed by oxidation having salicylic acid. This likely becomes a sodium salt. Dr. Flint says ol. gaultheria was used on thirteen cases of rheumatism in Bellevue Hospital, and produced less nausea than the acid or sodium salt; 10 drops were given several times daily. This dose is very small, and that may be the reason there was no nausea, or it may be the oil is not split up in the stomach, and hence only irritates by action during elimination, a small part being eliminated by the gastric glands as salicylate of sodium. Dr. D. H. Lake, while interne in the Philadelphia Hospital, treated a large number of cases of articular rheumatism with ol. gaultheria—10 to 20 minims every two hours. He concludes that it acts as promptly as the sodium salt, that it is not so depressing, but that there is considerable gastric irritability. The salicylate of propyl has such a fishy odor that it has been used very little.

SALICYLATE OF MAGNESIUM.

Desplats and Vulpian once claimed that salicylate of bismuth was useful in typhoid fever, on account of its antiseptic, antipyretic, and antidiarrhœic actions. Hurchard later thought that at times the antidiarrhœic action was an objection, because free movements carry off much of the infectious material. Hence he proposed salicylate of magnesium, and reports a large number of cases which he believes were greatly benefited by its exhibition. He says it dimishes the swelling of the abdomen and odor of the fæces. He gave from 50 to 100 grains daily without any disagreeable accompanying symptoms. It is freely soluble in water and hygroscopic. Theoretically, it seems that the salt ought to have powerful antiseptic action in the intestinal canal, and without any systemic action, because it is freely soluble in the intestine, and is likely split up into the base and acid, so that the salicyl is free to act on the contents of the canal; and yet with all its solubility and activity in the intestinal canal it very likely does not enter the circulation, except in very small quantity and very slowly, on account of the low diffusibility of the intestinal fluids produced by the magnesium. It seems that salicylate of magnesium ought to be a valuable drug for removing septic material from the intestinal canal, and hence would be of great service in diarrhœa due to microbes.

SALICYLATES OF IRON, ZINC, QUININE, AND ESERINE.

The salicylate of iron (prepared by E. Merck) is a black powder, almost wholly insoluble in water, in dilute hydrochloric acid, and in dilute solution of bicarbonate of sodium. It probably passes through the intestinal canal unchanged, and hence is very likely of little service in the treatment of the anæmia of rheumatism.

In anæmic and poorly-nourished patients suffering from rheumatism Solis-Cohen for five years has been using the following prescription:

℞.—

Sodii salicylatis,	ʒiv ;
Glycerini,	℥ii ;
Ol. gaultheriæ,	mxx ;
Tinct. ferri chloridi,	ʒiv ;
Acidi citrici,	gr. x ;
Liq. ammonii citratis, ad	℥iv. M.

Sig.—ʒi several times daily.

The ample material of the out-patient department of Jefferson Medical College Hospital has abundantly confirmed his expectations of its usefulness in such cases. In this mixture is probably the citro-salicylate of iron and ammonium, which is slightly soluble in water, and freely soluble in water and glycerin. There is probably nothing to be gained by this salt over the tinct. of iron and salicylate of sodium, except that it saves prescribing two bottles of medicine, which, of course, from a practical point, has its advantages, and which are considerable, hence it is a useful prescription.

Dr. W. F. Waugh speaks very highly of the sulpho-carbolate of zinc in summer diarrhœa, and it may be that the salicylate of zinc would be of service in such troubles. However, I have seen no reports of its use. I have never seen the drug, though it is on the market; salicylates of the cinchona alkaloids are also manufactured. I have never used them. The salicylate of eserine has been used in ocular therapeutics in place of the sulphate. The amount of salicyl contained in it is too small to have any appreciable antiseptic action. Its only advantage, if it has any, is that the nascent salicylic acid is less caustic than the nascent sulphuric acid.

SALICYLATE OF MERCURY.

I have made four salicylates of mercury—two mercurous and two mercuric salicylates. The salicylate of mercury that I shall here consider is a mercuric salicylate in which two atoms of hydrogen were replaced by mercury. I made it by double decomposition of mercuric nitrate and a salicylate of potassium in which the molecule contains two atoms of potassium. Ordinary salicylate of potassium on the market contains only one atom of potassium. This salt is made by E. Merck. It is a white, amorphous powder, odorless and tasteless. It is slightly soluble in water, and freely soluble in carbonate of sodium or potassium, only very slightly soluble in dilute hydrochloric acid.

The greater part of it probably passes through the stomach undissolved into the duodenum, where the alkaline menstruum possibly dissolves it preparatory for absorption. This is purely a hypothesis. No experiments on absorption have been made so far as I know. However, the clinical experiences of Drs. Arango and Chaves, of Rio Janeiro, and Dr. Inge, of Mobile, somewhat suggest this. Some of their conclusions may be stated as follows .

1. It is supported easily by the stomach without any bad effects.
2. It does not cause mercurial stomatitis.
3. It is effective when the bichloride has no effect. If the most of it passes through the stomach unchanged, it would produce less gastric disturbance than if it were dissolved in the stomach.

Often the bichloride, after weeks of its continuous exhibition, becomes ineffective, not only because it is an irritant, but mainly because it is daily arresting the action of the pepsin, and thus it gradually interferes with digestion, and hence nutrition. Some persons who have strong digestive organs may not be affected by this, but the weaker will suffer, cellular metabolism will be depressed, and the treatment will do no good. It is in such cases that hypodermic injections have been of great service, and it may be that the salicylate of mercury,because it is an organic salt, and because it is mainly absorbed from the duodenum, will succeed where the bichloride deranges digestion, and for that reason fails. Its action may, so far as its organic radical is concerned, be compared with that of the vegetable salts of iron. In anæmia iron is indicated, but in certain cases the astringent chloride may irritate the stomach so much that its exhibition will do more harm than good, while one of the vegetable salts will be well borne and improve the patient.

It is possible that some other organic salts of mercury might have advantages. I have made the citrate of mercury and tartrate of mercury (mercuric). It is probable that the citrate or tartrate of mercury and potassium would be more soluble in water. So far as the chemical reactions suggest anything, it appears that these salts would be inferior to the salicylate, because these in the test-tube behave as the mineral salts of mercury, while the mercuric salicylate containing two atoms of mercury has entirely a different class of reactions : as an example, it is soluble in alkalies, which property gives it advantages in medicine over other known salts of mercury. This property is due to the fact that an atom of mercury replaces the atom of acid hydrogen in OH, making a salt entirely different from the salicylate, in which only the atom of hydrogen in CO_2H is replaced. If salicylate of mercury is of any service in syphilis it is not on account of the action of the radical salicyl, as it is in entirely too small quantity to have any appreciable action, but simply in its use in forming an unirritating compound and one absorbable from the duodenum mainly. The doctors mentioned speak very highly of its use in an ointment not only for syphiloderma but for other skin-lesions, and for a collyrium in eye-diseases. It is very likely less corrosive than the mineral compounds of mercury, because nascent organic radicals are not so destructive to tissue as the mineral. The experience of the doctors quoted is that it does not produce stomatitis unless the dose be excessively large. Of course the stomatitis is produced by its action during elimination through the glands connected with the buccal cavity. If mercury circulates in the blood as an albuminate, I see no reason why the form of mercury absorbed should affect its power to produce stomatitis. But if the salicylate circulates as the salicylate and the bichloride as the bichloride, it is much easier to imagine that the nascent chlorine would be more irritating to the gums and glands than the the salicyl. As for the confirmatory clinical experience, it may be mentioned that K. Schadek, of Germany, says that salicylate of mercury is no less active than other preparations of mercury, besides it produces no unpleasant local effects and systemic disturbance, which so often occurs with the bichloride. As salicylate of mercury is only slightly soluble in water, that is an objection to its use in antiseptic solutions, unless they be made alkaline. Like iodoform and salol, probably when brought in contact with pus and putrid discharges it may be split up and act as an antiseptic. I have not read of any experiments on its antiseptic action.

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Where I have not been able to see the original paper I have mentioned the journal in which I saw the extract.

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THERAPEUTICS OF BRIGHT'S DISEASE.—The *Revue Générale de Clinique et de Thérapeutique* gives the following summary of the therapeutics of Bright's disease.

Classic Regimen: Climatic precautions consist in avoiding humidity and rapid changes of temperature. In dietetics the patient is told to avoid highly spiced and irritant foods; avoid eggs, wines, liquors and beer, and to confine himself to the milk diet, either absolute or mixed.

Senator's Regimen: This permits the use of white meats, including pork, starchy and herbaceous foods, fruits, fats and milk. It also allows wine diluted with water. It forbids all red meats.

Semmola's Regimen: This consists in the observance of the foregoing rules and as an internal remedy its author prescribes the following, to be taken daily:

℞.—

Potassium iodide, - - -	grs. xvi.
Sodium phosphate, - - - -	ʒ ss.
Sodium chloride, - - -	ʒ iss.
Water, - - - - -	O ij.

Mix and dissolve.

This amount suffices for twenty-four hours and is to be taken at convenient intervals.

Bamberger's Regimen: This prescribes the rigid adherence to the milk diet, and assists it with tonics and iron. Its author recommends the following:

1. Pills of perchloride of iron after the following formula, from three to six to be taken during the twenty-four hours:

℞.—

Perchloride of iron, - - - -	ʒ ss.
Marsh trefoil (menyanthes trif.) in powder, -	℈ iv.
Extract of taraxicum, sufficient.	

Mix and divide into 100 pills.

2. Pills of sulphate of iron. For these Bamberger prefers Wiethe's formula as follows.

℞.—

Sulphate of iron, - - - -	℈ iv.
Sodium bicarbonate, - - - -	℈ iv.
Extract of taraxicum, sufficient.	

Mix and make into sixty pills, of which three are to be taken in the morning and a similar number on going to bed.

3. Infusion of cinchona bark, made by exhausting 300 grains of the contused bark with six ounces of boiling water, and sweetening with half an ounce of syrup of orange peel. A tablespoonful of this infusion is to be taken every two hours.—*Medical Progress.*

DOUBLE PLACENTA IN SINGLE PREGNANCY.—M. Guéniot presented to the Academy of Medicine, of Paris, a double placenta obtained from a II-para, delivered at the eighth and a half month of a single healthy child. The placenta consisted of two flattened symmetrical portions, each one receiving one of the arteries of the cord, the vein being formed by the fusion of large vascular trunks on the membranes and coming separately from the placental substance. The umbilical cord was bifurcated, the spiral form disappearing at the point of separation. Without entering into all of the interesting points connected with such a state of affairs, its medico-legal aspect is one which should not be overlooked. The presence of the umbilical cord only, could decide with certainty the fact of a single or double pregnancy, in such a case, so that a double placenta accompanied by but one child would be no conclusive evidence of infanticide.

ABSTRACTS FROM THE FRENCH JOURNALS. Translated for the *American Journal of Pharmacy*:

Terpin in Bronchitis.—This remedy seems to have been largely prescribed of late by Parisian physicians. Chéron's preparation has been most frequently used; it is given as follows in the *Monde Pharm.* of October 5th: Terpin, 5 gm.; glycerin, alcohol of 95 per cent., syrup of honey, of each, 70 gm.; vanillin, 0·02 gm. A tablespoonful contains 50 cgm. of terpin. Two tablespoonfuls are given daily to loosen and finally diminish expectoration. In the above doses it is not liable to cause gastric disturbance, especially if given after meals.

Mouth Wash.—The following wash for shrinking of the gums is given by various French journals of pharmacy: Tannic acid, 8 gm.; tr. iodine, 5 gm.: iodide potass., 1 gm.; tr. myrrh, 5 gm.; rose water, 200 gm.; mix. A teaspoonful in a third of a tumbler of water.

Dentition Syrup.—Paul Vigier proposes the following formula: Hydrochlorate of cocaine, 0·10 gm.; syrup, 10 gm.; tr. saffron, 10 drops; mix; to be rubbed upon the gums several times daily.—*Le Prog. Méd.*, Sept. 15, 1888. See also *Am. Jour. Phar.*, 1886, p. 295.

Analgesic Cotton.—Under the name of "cocained and morphinated cotton" the following formula by Eller is given in the *Union Méd.*, Oct. 20, 1888: Solution of cocaine (3 per cent.), 30 gm.; morphine sulph., 0·8 gm.; absorbent cotton, 30 gm. Dissolve the morphine in the cocaine and soak the cotton in the solution. It may be made into a small ball and introduced into the cavity of an aching tooth, or, previously moistened, may be used in like manner for ear-ache.

Boni's Blistering Liquid.—The formula is given in *L' Union*

Pharm. as follows: Pulv. camphor, 20 parts; chloral, 30 parts; melt at 140° F., and add 10 parts pulv. cantharis; agitate for one hour, with heat, but do not let the temperature go above 158° F.; filter. This vesicant liquor may be used with compresses, or painted on with a brush.

Application for Warts.—The following formula is given by the *Union Médicale*, Oct. 30th. Protochloride of mercury, 15 gm.; pulv. boric acid, 7·50 gm.; pulv. salicylic acid, 2·50 gm.; mix; apply three times, daily.

Chloral Ammonium.—According to *Nouv. Rem.*, Nov. 8, 1888, this substance is trichlor-amido-ethylic alcohol, having the formula $C_2HCl_3.NH_2.OH$, as stated by Nestbit in *L'Orosi*, Aug., 1888. It is obtained by passing a current of dry ammonia gas through anhydrous chloral dissolved in chloroform. A crystalline mass is produced which is removed and dried in vacuo. It resembles chloral in taste and odor, but the taste is less persistent. According to Nestbit, chloral ammonium used in 1 to 2 gm. doses gives the therapeutic effects of urethan and chloral, being both hypnotic and analgesic. Its action upon the heart and respiratory centres is less strong than that of chloral.

To Marbleize Utensils of Iron or Brass.—M. Glibert's process is given in *Nouv. Rem.*, Nov. 8, as follows: Make a thin mixture of any desirable color of powdered enamel, in water, to which has been added a small quantity of glycerin, and apply with a brush. Then go over the work with a spray of oil of turpentine until spots appear and, when dry, bake in the usual manner.

ANTIFEBRIN.—Dr. Theodore Cash, F. R. S., the Professor of Therapeutics in the University of Aberdeen, speaks very warmly of antifebrin. He declares it to be "an antipyretic of the first order," and to be preferred to antipyrin as an antipyretic on the following grounds: 1. The smaller dose in which it is operative; 2. The steadier and more continued action; 3. Its comparative freedom from the danger of causing collapse; 4. It is much cheaper, as it is purchasable in the open market, whilst antipyrin is not so. The chief drawback, its comparative insolubility in water, "is readily overcome by prescribing it together with some pleasant tincture, as tinct. aurantii." He advocates the use of small doses, the effect produced on a pyrexial temperature being eight times as great as that produced on the normal temperature. As an antipyretic, it is four times as strong as antipyrin, the effect lasts longer, though nearly as rapidly produced, and collapse is almost unknown. It acts well in measles, and is especially useful in treating intercurrent pneumonia; it cuts down the evening exacerbations of typhoid fever, and has a favorable influence on the course of the case. It is particularly suitable for administration to children. In doses of gr. j to ij, three or four times a day, it is extremely useful in the pyrexia of phthisis, and may be taken by the most weak and emaciated patients with advantage. The only other important action of antifebrin seems to be on the cord. Reflex irritability is greatly reduced and ultimately anæsthesia is produced; the irritability of the motor nerves and of the muscles themselves is also greatly diminished by large doses. One drawback to its use is that it diminishes the amount of oxy-hæmoglobin in the blood, and in time produces anæmia, which, however, is said to be very amenable to treatment.

How to Administer Sulphonal.—The *Chemist and Druggist*, in an article on sulphonal, states that the sparing solubility of sulphonal is one of the chief difficulties which have to be dealt with in dispensing the remedy. It is placed on the market in the form of small white crystals, which powder easily, but the resulting powder mixes badly with water. Were there not this objection, the best form of dispensing sulphonal would be as powder, for the dose being comparatively large (15 to 60 grains), pills are out of the question. The patient might, however, take a powder dry on the tongue and wash it down with water; or, better, it may be taken in rice paper. In mixture the drug requires the addition of something viscous to suspend it, otherwise the powder rises to the surface of the liquid as soon as agitation ceases. For a draught it advises the following formula as a suitable one:

Sulphonal - - - -	gr. xxx
Syrup, mucilage of acacia - -	āā fʒii
Distilled water - - - -	f℥i.

Powder the sulphonal and mix the syrup with it in the mortar, then the mucilage, diluted with three fluid drachms of water. Wash out the mortar with the rest of the water. Dr. Lovegrove recommends compound tragacanth powder for suspending sulphonal, and it may be used if the viscosity is not objected to. The remedy makes a good pill with glycerine and tragacanth, but, as already stated, the dose renders this form of administration objectionable.

Sulphonal is practically tasteless, the extremely slight bitter after-taste of the aqueous solution being observable only to those who expect it, and not to the ordinary patient.—*The American Medical Digest.*

MISCELLANEOUS.

Milk.—The following rules contain some of the most important guides for the protection of the dealer in milk, as well as for the protection of the public:

1. The milk of diseased cows should not be sent to market. Any condition that produces a fever in a milk cow should be regarded as rendering the milk bad.

2. The milk of cows fed upon distillery swill, or those fed entirely or largely upon fermenting brewers' grains, should not be sold for infants' food.

3. Cows should not be allowed to drink stagnant pond or ditch water.

4. Milk from cows that are overheated or worried, at the time of milking, should not be sent to market.

5. If the udders are dirty, they should be washed clean before milking.

6. The milk should be cooled outside of the stable, and the cans should be covered during the process, to exclude air and dust. Milk should be kept at a temperature below 60° F., but ice should never be put into it.

7. Warm milk should never be received from the dealer, nor should the can be left out on the sidewalk in summer.

8. Milk should always be kept covered, and should never be kept in an ice-box with meats or vegetables possessing an odor.

9. Ice-boxes, stores and wagons in which milk is kept, should be kept clean and sweet by occasional washing with chloride of lime followed by clean water, or soap and water.

10. When possible, only full cans should be received. A small full can is better than a large one partly filled, as the agitation and churning of the milk is less in a full can. Avoid the unnecessary handling of milk. The necessary agitation of shipping and delivering is an injury to it.

11. Milk that has been brought back from the morning rounds should not be mixed with other milk; it should be cooled at once, and sold as soon as possible.

12. If milk is kept over night, a small portion of it should be boiled to see if it will curdle, before it is sold.

13. Each and every dairy's milk should be tested daily.

14. It is best to make a contract with the one who delivers the milk to you to furnish that of a given test by the lactometer, say 105 to 110, and giving at ten per cent. of cream.

15. Milk which contains dirt settling to the bottom of the can, blood, offensive odors or taste, should not be sold to customers.

16. Cleanliness in the handling of milk is absolutely essential to its wholesomeness.—*Brooklyn Med. Jour.*, October.

THE LONGEST PERIOD OF LIFE.—Miss Prime—"Philosophers disagree as to which period of life seems the longest to mankind. What is your opinion, doctor?"

Doctor (meditatively)—"Well, it varies. In women, for instance, the longest generally is between twenty-nine and thirty. I know in my wife's case ten years elapsed between her twenty-ninth and thirtieth birthday."

SOLUBLE VACCINE MATTER.—It had been previously established that a rabbit may be protected against the pyocyanic disease by injecting under its skin the soluble products of cultures deprived of all microbes by means of heat and filtration. M. Bouchard demonstrated that it was possible to obtain the same immunity by the use of urine collected from rabbits dead of pyocyanic infection, the urine being likewise free from microbes. These experiments prove the great part played by chemical substances manufactured by microbes in the body and eliminated by the kidney. MM. Charrin and Ruffer have sought to determine whether soluble "vaccine" matter which develops in artificial cultures could pass through the body of the rabbit and be eliminated by the kidneys without losing its power of conferring immunity. The experiments are reported in the *France Médicale*, No. 126. The answer to the question is given in the affirmative.

DR. E. E. MONTGOMERY thus formulates the treatment of extra uterine pregnancy:

1. In every form of ectopic gestation, prior to the fourth month, the destruction of life by the Faradic current.
2. Between the fourth and sixth months, destruction of life by electricity, and some weeks later laparotomy.
3. In rupture, immediate laparotomy, with removal of sac, contents, and effused blood.
4. In cases that have passed the sixth month, wait until viability is well established, and perform laparotomy, observing every precaution that separation of the placenta does not occur, close the sac above, and drain through the vagina.
5. In the case of death of fœtus, it should be removed by laparotomy a few weeks later.
6. When the fœtus has become macerated and abscess has formed, its sinus should be enlarged and the fœtal residue removed.

THE USE OF PEPSIN IN THE LOCAL TREATMENT OF DIPHTHERIA AND MEMBRANOUS CROUP.—The field for the use of pepsin seems constantly extending with the improvements made in the quality of this agent, and it may now be employed with greater certainty as to results than ever before. The application of pepsin to digest away the membrane in diphtheria and membranous croup is not new, and is more or less commended and resorted to by physicians in the treatment of these diseases.

Naturally, however, its utility depends entirely upon its digestive activity, and on account of the many preparations of pepsin of feeble or no digestive power heretofore at the disposal of physicians, the results obtained have been in some cases discouraging.

As to the value of pepsin, however, in these affections, when of proper purity and strength, there can be no question. We believe that the recent improvements in pepsin, securing greater purity, strength and permanence (we allude to the pepsin purum in lamellis of Parke Davis & Co., which is the nearest approach that has yet been made to pure pepsin, and possesses more than twice the digestive power of any previously introduced), will lead to its extensive use in diphtheria and membranous croup, maladies now attended with such grave results, even when combated by the most expert medical care.

It is to be hoped, and it is certainly highly probable, that the further study of digestive ferments will lead to the production of a pepsin still more active.

If the false membrane could be easily digested, and there seems no reason why it might not be with a pepsin of high digestive power, we could expect to have fewer grave cases of interference with respiration and blood poisoning from absorption of septic material, now, alas! so frequent.

Dr. Saunier discusses not only the use of pepsin, but also contrasts it with the results to be obtained with trypsin and papayotin, to the disadvantage of the two latter agents.

His results we may briefly epitomize here in his own language. After discussing the prevalence of diphtheria, the mortality attending it and the different theories as to its cause, he says:

"Whether we regard diphtheria as a local or systemic disease, there is no doubt but what it presents both local and systemic symptoms, and those who have adopted both local and general treatment seem to have had the best success in combating it.

"The three agents which have been most extensively used as local solvents for the false membrane of croup and diphtheria are papayotin, trypsin and pepsin.

"Papayotin is a vegetable agent recently introduced, claiming to have the same digestive properties as pepsin. I have had no personal experience with it. Dr. A. Jacobi, of New York, reports fair success by its use in a few cases. Dreyer, of Moscow, treated forty cases of diphtheria with papayotin and gives the following conclusions: First. It exercises a feeble solvent action when the membrane begins to decompose. Second. The delicate new membrane is not affected by it. Third. It exerts no effect on the mortality of the disease. Its present high price is also somewhat against it.

"In the use of trypsin it is necessary to maintain an alkaline condition of the throat, as trypsin acts only in alkaline solutions. The secretions of the mouth and throat in these diseases is strongly acid, and tend to neutralize and destroy the power of the alkaline solution of trypsin.

"Drs. B. M. Van Syckle and J. Lewis Smith, of New York; J. A. Keating, of Philadelphia, and Saunders, of St. Louis, have all experimented with trypsin in the treatment of diphtheria with varying success, the best results being obtained when the throat was kept in a state of alkalinity by the use of the trypsin applied in spray form every fifteen or twenty minutes.

"Dr. H. D. Chapin, of New York, has made some interesting experiments in the solution of croupous membrane. He says an alkaline solution, not strong enough to act as an escharotic, had no influence on the membrane, or at most produced but slight softening. Experimenting with trypsin he found that croupous membrane was dissolved in from fifteen to twenty minutes by the spray and by solution, the spray acting a little more rapidly than the solution. A solution of trypsin required five hours to dissolve the mucous expectoration of phthisis.

"Pepsin solutions have been less used and less experimented with than trypsin, and yet this seems likely to give far better results when it does come into more general use.

"A solution of pepsin will dissolve croupous membrane outside the body in from fifteen to thirty minutes, acting as well as trypsin, with the very important advantage that it does not require an alkaline solution.

"The reaction of the fluids of the mouth and throat in croup and diphtheria is markedly acid, and the great majority of local medicinal applications in general use are acid, hence the combination of pepsin with acid fluids can be more easily accomplished than the efforts to keep up an alkaline condition for the use of other solvents.

"Another very important point of difference is in the number of applications required.

"To keep up an alkaline condition for the action of trypsin, requires an application every twenty or thirty minutes, and all will concede how trying it must be to patient and nurse to spray an unruly child's throat so frequently.

"On the other hand, the pepsin solution acts rapidly, needs to be applied much less frequently, and there is little tendency to a return of the membrane after it is thoroughly dissolved.

"Speaking of solvents, Da Costa says: "The remedy that has done best is a saturated solution of pepsin in the form of a spray.

"But a spray is a terror to most children, especially infants, and many practitioners are deterred from using any remedy, however useful, which has to be applied in that form. In my own practice I always use a swab or sponge, on a bent rod, applying the solution of pepsin freely to the diseased surfaces, every one, two or three hours, according to the severity of the case and quantity of false membrane present.

"The objection to the probang may be made that a child does not submit to its use any more gracefully than to that of the spray; but it takes but a moment to make the application, even if force be necessary to accomplish that object, and the effects are more lasting than the spray, necessitating its use much less frequently.

"In regard to the form of pepsin, allow me to say that I have used several and find that those which come in a scale or crystal form, so called, are the most active; the powdered form being difficult of solution and not seeming to possess the energy of the former.

"Two years ago I began the use of solutions of pepsin locally, with the same general treatment, since when my cases have made a more rapid and better recovery than when the same treatment without the pepsin was administered.

PATHOGENY OF THE COMPLICATIONS OF SCARLATINA.—Dr. M. A. Raskin publishes in the *Vrach* (No. 44) some investigations he has made on the source of the malignant complications of scarlatina. In uncomplicated cases of the affection he has never been able to detect streptococci in the blood or, in fatal cases, in the organs. Streptococci never appear in the skin, and they were only found in two cases out of eigtheen in the desquamation. These streptococci when inoculated into animals only produced the ordinary results of streptococci obtained from other sources. It is, he says, probable that such complications as inflammation of the glands, phlegmonous cellulitis of the neck, suppurative and perhaps serous inflammations of joints, broncho-pneumonia, and purulent otitis are due to a secondary infection by means of chain-like cocci. It is not possible to say the same regarding diphtheria. Though streptococci are found very constantly in diphtheritic membranes, they are not generally admitted as having a casual relation to the disease. Dr. Raskin has also never been able to succeed in inducing diphtheria by inoculating mucous membrane or the raw surface of sores with streptococci; a specific form of bacillus has, moreover, been found in diphtheritic tissues by Löffler and other observers; and it is difficult to understand how the same micro-organism (a chain coccus) can set up two such different diseases as diphtheria and suppurative inflammation. According to the author's researches, secondary suppurative processes are set up by chain cocci, which may or may not be associated with other micro-organisms—staphylococci in otitis and micrococcus pyogenes tenuis in pyæmia. These organisms enter the system through the scarlatinal ulcers of the throat, and make their way to distant parts by means of the lymphatics. There are two especially favorable conditions in existence—the readiness of these bacteria to travel along the lymphatics, and the richness of the pharyngeal tissues in these vessels. When streptococci enter the blood they are disposed of in three different ways: (1) they may rapidly die and disappear without producing any further disturbance than some degree of pyrexia; (2) they may emerge from the vessels into the organs, and there set up suppurative changes; and (3) they may set up pyæmia and cause death. The morphological and biological relations of the streptococci examined did not differ from those of other streptococci. The practical advice which Dr. Raskin is led to give us to keep the mouth and the throat particularly clean, to be very careful as to the cleanliness of everything that is introduced into the mouth, and to make assurance doubly sure, to use disinfectants.

ENEMATA OF HOT WATER IN DIARRHŒA AND DYSENTERY.—Dr. Raymond Tripier, in the *Jour. des Sci. Med. de Lille,* reports the use of hot water enemata with an infant twenty-one months old, whose dysenteric movements were every fifteen or twenty minutes. After the first injection there was no movement for two hours, and in a short time the child was convalescent. The temperature of the water should be 45–48° C., and from 300 to 500 centimetres in quantity. If enemata alone do not answer, decoction of ipecac is given internally.

Injections of ice water are said to be used at the Birmingham General Hospital with marked success in severe forms of diarrhœa in children, two or three fluid ounces being injected each time. The immediate effect, even when there are symptoms of collapse, is quiet sleep, and diarrhœa is in general easily controlled by a few injections. Medicine by the mouth is also given. Dysentery is not readily controlled by medication, especially with patients living in overcrowded houses, and enemata of hot water seem reasonable.

Enemata of cold water (not iced)have been of great service in the non-inflammatory form of diarrhœa, especially when nervous and muscular tone are much depressed. An easily worked bulb-syringe is best adapted for these enemata, which should be given either after each movement (if the movements are frequent), or every two hours, until there are but three or four movements per day. An opiate (preferably the deodorized tincture) may be given in the enema if there is great restlessness or much tendency to strain. Internal medication, if possible, had better be dispensed with. Frequently one injection of cold water, together with regulation of the diet, will cure a comparatively mild case of diarrhœa.—*Archiv. Gyn.*, October.

CHOOSE A WHOLESOME HOME.—"A Boston tenant has sued his landlord and has recovered some $5,000 damages because of defective drainage in the house he occupied, whereby the plaintiff's family were made ill with diphtheria. This is an encouraging sign. We would like to make record of a few more such cases. Tenants have rights as well as landlords, and although the responsibility of a landlord in a matter like this may be hard to fix, the result of this Boston trial is satisfactory. All the same, the wisest course for a tenant to pursue is to see that the house he is about to rent is in good order so far as plumbing and sanitary arrangements are concerned. It is not prudent to run risks, even if there is a chance of holding the owner responsible for doctor's bills and like expenses."

Whatever may be thought of the merits of the case referred to in the above extract from a city newspaper, the closing admonition of the writer is most sound and wise, namely, the selection of an abode that can pass a sanitary examination. As a rule many other less important considerations weigh more heavily in the choice of homes than this one, which *may* involve the very existence of the family.

THE DIAGNOSTIC SIGNIFICANCE OF EPIGASTRIC MURMURS.—In the *Riforma Medica* Dr. Gabbi, of Florence, publishes his conclusions from clinical and experimental studied of murmurs heard in the epigastric region, and a summary of them is given in the *Centralblatt für Klinische Medicin.* In cases of cancer of the stomach, he says, a blowing murmur is often heard at the epigastrium, interposed between the two cardiac sounds and imitating the *bruit de galop.* In many instances this murmur depends on stenosis of the left superior coronary artery; in others more probably on stenosis of the abdominal aorta from the pressure of the neoplasm. Its intensity is governed by the degree of the stenosis and by the force of the current of blood, and varies somewhat also with the condition of the stomach as to fullness or emptiness, and with the patient's posture. It is occasionally observed in cases of ulcer of the stomach, and then it may disappear when the ulcer heals. It is always heard most distinctly at the epigastrium. An epigastric blowing murmur may be heard, too, independently of either cancer or ulcer of the stomach, synchronous with the first sound of the heart or intermediate between the two sounds. In the first instance it is propagated from the heart; in the second it is elicited by too great pressure with the stethoscope, especially in anæmic subjects, or is caused by atheromatous growths in the abdominal aorta, abdominal aneurysm, etc.

FAITH CURE IN NERVOUS DYSPEPSIA.—A patient—female, æt. 26 years—was brought before the clinic of the University Hospital, Philadelphia. She was remarkably anæmic, and the history of the case showed that for months past she had suffered from gradual failure of digestion, accompanied with flatulency which was so severe that it could be heard as she expressed it "in the next room although the door was closed."

This distressed her so much that she led a solitary existence and did not care to mix with her friends.

Pepper drew attention to the fact that the failure of digestion was due to failure of nerve power and not to gastric catarrh. The unpleasant borborygmi complained of were caused by spasmodic contractions of the walls of the stomach and intestines, the gases resulting from the fermentation of food being forced about in the alimentary canal. He considered that these spasmodic contractions were of reflex origin and caused by some irritation—very often a fissured anus, or more likely in females, ovarian congestion.

In reviewing the line of treatment proposed to be carried out, Pepper said: "There is a state of fixed attention to the suffering part always present in this class of cases which often continues after the disease is cured. It is the recognition of this condition which forms the basis of what is known as the 'faith cure,' a therapeutical agent which has, gentlemen, claims on our most serious study, and I will go so far as to say that without 'faith cure,' you cannot treat cases of nervous dyspepsia with success. I have seen cases which have been for months under the care of intelligent physicians, to be completely cured after two or three interviews with the faith healer, who says, 'there is no such thing as disease, therefore you are not sick, you are not suffering, you *must* not suffer.' This is a line of argument which in the hands of skilful physicians is a powerful remedial agent, but when used by unscrupulous persons degenerates into the merest quackery. By its means you obtain the confidence of your patients, you get their attention removed from the affected part and you break up the habit. You cannot overestimate the importance of the emotional elements in these cases; but, if you are content with removing this alone, you are merely the most superficial empiric.

Certain rules must be laid down as to diet, which must be of as nutritious and easily digested a character as possible. The food must be given in small quantities, and what is most important, at frequent intervals. The addition of Reed and Carnrick's peptonoids will be found to be of great value, while for medicinal treatment the antispasmodics are used with most gratifying results. I usually prescribe a triple combination of the valerianates in pill."

℞.—
Zinci valerian.
Quininæ valerian.
Ferri valerian, - - - āā gr. j.

Fiat pil. Signa—One pill to be taken three times a day, after meals.

SOME CARDIAC MURMURS.—To hear a cardiac murmur is easy enough. Any one with ordinary acuteness of hearing, and who is familiar with the normal sounds of the heart, can tell when a bruit is added if that bruit be at all marked.

To time a murmur is more difficult. That takes much practice, particularly if the murmur be other than purely systolic or diastolic. The murmur of mitral stenosis is especially difficult to place correctly, and to one accustomed to examining hearts the fact of an endo-cardial murmur being difficult to time is fair evidence of its being pre-systolic. But to correctly interpret the meaning of a murmur—"Ah! there's the rub."

How shall we know whether a given murmur denotes serious organic changes or simple anæmia?

Murmurs from mere blood changes are always systolic. They are usually soft and blowing, and are accompanied by a venous thrill and hum.

Why in simple anæmia we should get a systolic initial murmur—that is, an initial regurgitant murmur—is often confusing to students until they learn that in health there is a certain amount of vital contraction of the orifices tending to more closely approximate the edges of the valves. But in anæmia there is a tendency toward fatty degeneration of all the organs, and especially of the heart, which appears to be streaked with fat—the so-called "tabby cat degeneration."

When these fatty changes take place this contracted power is lost, and the valves not fitting perfectly together, a certain amount of regurgitation is allowed.

The fact of their being an anæmic apex murmur present shows that the case is somewhat advanced, for time must be given for these fatty changes to occur.

The order in which these hæmic murmurs make their appearance is usually about as follows: The first to appear is the soft blowing in the second left interspace. As the anæmia progresses, to this is added the hum heard in the veins of the neck.

In a more advanced stage the apex murmur becomes audible, at first confined to a limited area, but later passing around the axilla, where it may be heard not only at the angle of the left shoulder-blade, but in severe cases even at the right. Next in order comes the murmur of tricuspid regurgitation, and about the same time a venous hum is to be heard in the Torcular Herophili and in the longitudinal sinus.

The order of the appearance of murmurs is important, as it teaches us in about what stage our patient is when he first comes to us, and the fact of their disappearance or progress shows whether our treatment is beneficial or not.

The mitral systolic murmur usually persists after the others have disappeared, as there is in this case an organic defect to be overcome. —*Phys. and Surg. Investigator*, October 15.

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MEDICAL NEWS AND NOTES.

Sir Morell Mackenzie and the Royal College of Physicians.—We are informed that Sir Morell Mackenzie has resigned his membership of the Royal College of Physicians of London.

Dr. Thomas G. Morton, of Philadelphia, has been made an honorary member of the Society of Mental Medicine, of Ghent, Belgium.

Drainage Tubes in Abdominal Surgery.—"The rule about drainage tubes is that they should be left in the wound as long as there is the slightest trace of blood in the discharge. When it becomes serous they should be removed, as they are liable to cause irritation, and delay convalescence. A point worth remembering is to turn the drainage tube round every day. This prevents adventitious growths from extending through the holes, and thus making the tube difficult of extraction."—*Goodell.*

Compulsory Vaccination.—Small-pox is causing some alarm on the Pacific Coast and a short time ago fourteen doctors and a number of medical students made a descent on the schools of Portland, Ore., and vaccinated the unsuspecting pupils, *vi et armis.* Five hundred and thirty were thus vaccinated in a single day.

A French court has decided that when the master calls a physician to attend a servant, the master is responsible for the payment of the bill for services rendered.

A New Method of Destroying Tattoo Marks.—Dr. Variot has dicovered a means of obliterating tattoo marks, a result hitherto reported to be difficult, and even impossible of achievement. He pours on the marked spot a concentrated solution of tannin, and works it into the skin by a series of pricks, just as in tattooing proper. A certain quantity of tannin is thus introduced beneath the skin. He then rubs the part with nitrate of silver, and allows the solution of the salt to remain *in situ* until the prick marks show out as black points. The caustic is then wiped off, and the result is the formation of a black stain of tannate of silver. Inflammation is set up, and in the course of a fortnight scabs form, on the disappearance of which no trace is left of the original design, the only souvenir being a reddish scar, which in time becomes less visible. Various other plans have been tried without success—scarification, the introduction of opaque powders and caustics into the skin, etc. In no case did he have to deal with troublesome suppuration, although if the area be large it is well to do a piece at a time.—*Med. Press and Circular.*

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THE NUMBER OF STUDENTS.—England had in 1882 5,500 students in her universities, out of a population of 26,000,000, and Germany, with a population of 45,250,000, had 24,000 students. In that same year, with a population of 60,000,000, the United States had 66,437 students in colleges, 4921 in theological seminaries, 3,079 in law schools, and 15,151 in medical schools ; total, 89,588.

TO DISGUISE THE TASTE OF QUININE.—The formulæ which have been given for this purpose are innumerable. Dr. Hugo Engel adds one to the already growing list (*Gazeta Medica de Grenada*) recommending this formula:

℞.—
Quiniæ Sulphatis,
Ammonii Muriat,
Pulv. Glycyrrhizæ, - - - āā partes i.
M.

The muriate of ammonia and powdered liquorice should be well mixed, then add the quinine and finally enough honey to form an electuary.

A GENTLEMAN has just committed suicide in England, leaving behind him, written a long time ago, a statement of "the overpowering tendency to make away with himself he had experienced at intervals," and which he feared might one day prove too strong for him. "Considering the circumstances under which his words may see the light," he forbears to make allusion to those dear and near to him from whom he has always received the greatest kindness; "I cannot bear," he says, "to let my mind rest on them." He calmly ascribes his calamity to a blow on the head caused by a fall from a bicycle in 1877. It is difficult to imagine a more pathetic letter, or one dictated by more good sense and delicacy, under conditions the most painful and embarrassing that can fall to the lot of humanity. Many a man has his hidden danger known to none but himself and his doctor, and concealed from those about him for their dear sakes, but few indeed, let us hope, such a one as had this poor fellow.

BACTERIAL HÆMOGLOBINURIA.—The bacterial hæmoglobinuria of the ox has been confounded with the bovine pest. It is a contagious disease, and very fatal in the ox; cows nearly always resist it, and calves are refractory. M. Babès describes the bacterium as brilliant, round, and measuring about $.5\mu$; it is divided into two by a transverse mark, and often into four by another septum. The microbe resembles the gonococcus, because it forms diplococci; it has been cultivated on nutritive media at the temperature of the body.

SIR WILLIAM JENNER has resigned from the British Medical Association, it is said, on account of the publication in the *British Medical Journal* of the late Emperor Frederick's note to Dr. Mackenzie.

THE INFLUENCE OF MENSTRUATION ON THE PULSE AND TEMPERATURE.—This subject has been studied by Dr. Repreff, who publishes an account of his observations in *Vratch.* According to a summary given in the *Revue Générale de Clinique et de Thérapeutique,* in health the temperature and the pulse fall a day or two before menstruation, and immediately after the cessation of the flow the temperature rises, but without attaining a febrile height. In women with chronic uterine disease there is a rise of temperature during menstruation, but with a fall on the first and last days of the flow. In cases of oophoritis or salpingitis there is a febrile temperature before and after the flow, without any fall below the normal point. In certain diseases there are irregular changes of the pulse and temperature.

VERY HOT COMPRESSES IN SURGICAL PRACTICE.—Dr. I. I. Nasiloff, writing in the *Vrach*, gives an account of several cases of inflammation of the lymphatic glands which he treated with marked success by means of very hot compresses. These compresses consisted of a fourfold piece of linen, rather larger than the surface over the affected glands. It was dipped into water at a temperature nearly or quite equal to 212°F., wrung out, and applied quickly over the glands, its own temperature being then from 140° to 165°F. These applications were made morning and evening, the compress being allowed to remain on covered over with cotton wool for about fifteen minutes. As may be supposed, the applications produced somewhat severe pain, but this did not last long, though sometimes not only redness, but a blister was caused. The treatment was continued for about a fortnight. It was found that it very soon began to promote absorption; this action was always accompanied by a rise of temperature, depending apparently upon the size of the diseased glands, and upon the extent to which absorption was taking place. It was noticed that the earlier the treatment was adopted the more effective it showed itself. Dr. Nasiloff believes that hot compresses are a valuable form of treatment, not only in strumous glands, but in rheumatic osteo-myelitis and in fungoid inflammation of the joints.

EDITORIALS

INSERTS.—Among the literary pages of a number of our contemporaries may be found what are denominated "Inserts." It is somewhat disappointing when reading an interesting and scientific disquisition to be met on turning the next page by a glaring and conspicuous advertisement of some drug-house or other wherein is set forth the merits of some new remedy, the price at which it is sold, and the names of those physicians who give it the support of their testimony. At the front and back of each medical journal there are a number of pages set apart for the advertisement of those chemicals and appliances that are or may be found of advantage by physicians in the practice of their profession. The pages contained between these are, or should be devoted to medical literature solely. Nevertheless we find the energetic advertiser invading these precincts with his bold claims for the special efficacy of his drugs or appliances over those of his rivals. No one, surely, would fall under the condemnation of attempting to pose as an apostle of purism who would raise his voice against this infringement upon the dignity of medical journalism. We most assuredly echo the sentiments of a contemporary in his denunciation of this custom, but we fail to fully appreciate his particular objection to " colored inserts." We have recently read that a subscriber to a journal well known and ably edited, canceled his subscription when the journal appeared in one issue adorned with " colored inserts." Of course the object of this physician was to show his disapproval of this compromise of journalistic dignity. If others were to follow his example, considerations of utility would soon induce the editors of these journals to pause. We cannot keep from believing that when this matter is put flatly to those who countenance this thing they will acknowledge that the practice adds nothing to the literary value of their contributions, destroys the homogeneity of the publication, and detracts from the dignity of the *ensemble*.

Our sentiments on this subject are not written in any controversial spirit, nevertheless they are strong and fixed. The subject is worthy the attention of all, and it would be particularly interesting to hear from the opposition.

THE POWER OF THE IMAGINATION.—We are often called upon to believe wonderful stories of the power of the imagination in producing results which are apparently impossible and certainly improbable. It is not a difficult matter for any one to decline to believe a thing when he himself has no personal experience in it. But we must remember that if we accept only those things which are within our own ken we will soon have our knowledge circumscribed by the narrow limits of our own experience.

We are accustomed to describe as wonderful something that is rare or altogether new in our experience, that arises from causes which seem incompatible with surroundings, or from causes which, from our knowledge, we do not believe will produce such results. The credulity of the human race is something marvelous; but in view of the many wonderful new facts that have been developed unexpectedly, we cannot always attribute this credulity to a common inability to analyze the probability of what is stated, but sometimes rather to the excess of that caution which teaches a wise man not to deny that about which he knows nothing, or that about which he does not know everything.

If we are to believe the many stories which are told us in scientific language of the wonders of hypnotism by men who have large experience as scientific observers, the belief in some of the following instances of the power of imagination will not be over-difficult. A recent edition of the *Industrial World* has related numerous instances, apparently well authenticated, of the power of the imagination.

A young lady, determined to commit suicide, swallowed a powder which she supposed was deadly poison, and died in agony from the effects of her imagination, for a chemical analysis of the powder showed that only harmless agents were contained in it. A convict, having been sentenced to death, was delivered, at his request, into the hands of medical men for experimentation. He hoped to escape capital punishment in this manner. He was blindfolded and led to believe that he would be bled to death. He was told an incision had been made in a vein, and the blood was trickling from the wound into a vessel beneath. He died in the same way as he would have done had he bled to death. A college porter was subjected by medical students to a mock trial for some imaginary offense, and was condemned to death by decapitation. The axe and block were shown him. He was blindfolded and led out to be executed. His neck was bared, and at command he laid his head upon the block. A blow across the neck with a wet towel consummated the grim farce. General Joe Johnson tells of an incident which occurred in his own experience. A number of comrades in the United States army agreed to select a perfectly healthy man for experimentation with a view to testing the effect of the imagination. Each one was to meet him, and, seemingly by chance, was to comment on his appearance of illness. It is stated that the result of this gibe was the illness and death of the victim. It requires an effort of credulity as great as the effort of the imagination illustrated to believe the following two incidents:

"An American physician states that he has personally known of individuals who had supposed they had come in contact with the poison ivy, and, although the contrary was subsequently demonstrated, belief in the supposed contact with a poisonous vine produced all the effect of actual poisoning."

A lady was passing an institution, where she saw a number of children at play. A heavy iron gate, in closing, seemed as if it would crush the foot of one of the children. The child escaped without injury, but the ankle of the lady became immediately so lame and so swollen that it was with difficulty she could get home.

The chronicler fails to state which foot of the child seemed in danger and which ankle of the lady became swollen and lame. Such a lack of accuracy in detail in the relation of such extraordinary events, is damaging to the integrity of the narrative. An interesting story is told by a historian of that bold and ambitious prince, the Prince of Orange which, if true, illustrates the effect of the imagination in the cure of disease. At the siege of Buda in 1625, an aggravated scurvy attacked the Prince's troops against which the skill of his surgeons was of no avail. He caused bottles of sham medicine to be distributed among the troops as an infallible remedy. The historian states that the effect of the medicine was like magic. The disease was quickly eradicated. A physician was called to see a case that was apparently at death's door from an uncontrollable attack of hiccough. It was night. The physician entered the room in a cheerful manner, and after looking intently at the patient, took up the candle and went out saying that no one was known to hiccough in the dark. The hiccough ceased immediately.

An interesting story of this sort was related to us by a *guerilla* in the valley campaign during the war between the States. The two armies were encamped, one on either side of a mountain stream, and the country was of such a character that the best bridle path lay along the course of the stream. The narrator of the story volunteered to carry a dispatch to a distant force. In following the course of the stream he was subjected to a running fire from the enemy's pickets. He escaped for some time, but finally, just as he was turning from the dangerous region, he felt he was shot in the right hip. He could feel the hot blood flowing and wetting his trousers, and finally feel it creep into his boot, where he said he could feel it "sloshing" as he moved his toes. He became deathly sick, but was afraid to look at his leg lest he should faint and the dispatch should remain undelivered. At length he reached his destination, where he was caught and pulled from his horse in a state of half swoon He was asked what was the matter. He replied he was bleeding to death, was shot in the leg, and his boot was full of blood. His boot and trousers were pulled off, but not a sign of blood could be seen. A Minié-ball had struck his saddle and, having glanced off, forced its way through his trousers and made a contused wound on his buttock. This man was distinguished amongst his fellows for his "nerve" and courage.

Such incidents could be multiplied without number. No one has a right to doubt the conviction of him who narrates such things of himself. In the latter case the bleeding was practically a reality. Why should not the power of the imagination be sometimes employed in the cure of disease? On this question is based the practice of that equivocal thing known as "Christian science." It is not a thing of today, it is as old as the philosophy of Plato. There is no intelligent physician who has not prescribed a "placebo" who does not use his "influence" to convince his patients that they are not as sick as they think. No one can deny this, but this is different from that "science" which teaches that there is no pain nor disease, and that all sensations are controllable by the will. The effect of the imagination on the functions of the body cannot be doubted, and theoretically therefore, functional disorders may be modified by mental convictions as normal functions may be perverted by it. But when the facts of science are perverted to the extent of teaching that imagination will remove organic diseases, we recognize the wandering of a benighted mind or the elements of meretricious rascality. We are quite as willing to believe that the imagination or will can remove a mountain into the sea as to believe that "Christian science" will smooth away the intumescence of a carbuncle, remove a fibroid tumor, set a broken limb, or correct an error of refraction.

An instance has recently been reported in which "Christian science" sat by with the idiotic stolidity of faith and permitted a parturient woman to bleed to death. The law took cognizance of the case.

The effect of the mind and will upon the functions of the body should not be forgotten and should be used intelligently by physicians wherever good may be obtained, but it becomes all intelligent and humane people to discountenance the relegation of this practice into the hands of any other than physicians and to crush as with an iron heel those pretentious and ignorant charlatans who pose as the teachers of "Christian science."

SHALL PHYSICIANS ADOPT SOME FORM OF CHARACTERISTIC DRESS.—This question has been raised by a contemporary. Apparently it has not provoked many to the expression of opinion. Nevertheless, in casting about amongst our exchanges for the past month, we have come across one who has expressed his opinion on the subject in unequivocal terms. This critic does not analyze the merits and demerits of the proposition, but seems to give the upshot of his sentiments. The idea is evidently ridiculous and silly to him for he suggests that in addition to the prescribed cut of the coat a pair of long pointed ears covered with hair be worn, while the wearer of both should cultivate the "pathognomonic" bray.

Just here it would not be malapropos to remark that there are other things characteristic of an ass than his ears and bray—his heels.

Time was when the older members of our profession in England at least cultivated the dusted and powdered periwig while the black gold-headed cane served the end of the caduceus. Certainly the habit on the part of medical men to characterize themselves by their dress is decreasing and the days of periwig and gold-headed canes are gone perhaps never to return. The truculent advice given in some books relative to the manner in which a young physician should deport himself, savors of the humbuggery of the old periwigs. It is evident that the distinctive dress of the medical corps of an army is demanded by utilitarian considerations. It may be agreed that in case of disease or accident, some form of distinctive dress on the part of the physicians present might be of advantage in procuring speedy assistance to those injured. This may be true, but it is certainly true that physicians under these circumstances rarely fail to offer their services promptly.

We do not believe that any characteristic of dress on the part of physicians would increase their usefulness and value to the public; it would render them conspicuous without distinction and it would strike at the very root or foundation of the ethical principles upon which our profession is based. We decline to entertain the idea.

AMONG the operative procedures of modern date belonging to the domain of conservative gynæcology ventral fixation of the retroflexed uterus is worthy of careful study, in order to determine its exact value. As yet experience is too limited to admit of dogmatic exposition. The contributions to this theme by Klotz, Sänger, Leopold, Olshausen and Czerny of Germany, and by Kelly and Lee of this country are valuable, but are not competent to determine accurately the indication and the technique of the operation. The name proposed by Kelly, "hysterorhaphy," is not sufficiently distinctive, it would be better to describe the operation as Czerny does as a *hysterorhaphie ventralis anterior.* In regard to the indications for the performance of this operation, it must be carefully borne in mind that however slight the dangers may be of an aseptic laparotomy, still in the nature of things we cannot estimate beforehand what difficulties we may have to encounter that may jeopardize the safety of the patient. We may find on opening the abdomen that the loosening of the adhesions is very different, and may be attended by considerable loss of blood, or we may find that the tubes and ovaries require removal. In the case of prolapse it is obvious that the operation can have but a limited application. Olshausen had to admit that this method would not suffice for cases of severe prolapses. What method of ventral fixation is the simplest and yet accomplishes the purpose, is not yet decided. It is important that the uterus should be so placed as to interfere as little as possible with the bladder, and here, we think, will always be one of the weak points of this operation. It is also important that in the event of pregnancy the position of the uterus should not disturb its progress. It will remain for future experience to determine whether the difficulties to be surmounted can be successfully coped with or not. In our opinion the field for this operation must be a very limited one with the other means at our command for dealing with the most severe forms of retroflexion complicated by perimetric adhesions.

BY AN ERROR the name of Thos. F. Towle appeared on the advertisement of Buffalo Lithia Water last month, instead of Thos. F. Goode.

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ORIGINAL ARTICLES.

ARTICLE I.

SOME OBSERVATIONS ON THE CAUSES OF PNEUMONIA.

By RUFUS W. GRISWOLD.

The subject of this paper is not in very close keeping with the time of year in which it is written, though it is never quite out of place, since we now and then chance on cases of lung fever in the summer season, and also since it is likely that by the time it is in type we shall have again come around to those months and that sort of weather which give us the acute lung troubles in larger abundance. The matter especially of which the paper will treat I have before brought forward in one and another place; but it is a subject of such grave importance that there is no danger of over-discussion in relation to it in the current literature of the profession. If further ventilation will correct in the mind of even one reader an error which he has received from the teaching of some eminent authority, that one correction will compensate for the outlay herein.

The amount of good or of evil that goes out from a paper or from a lecture on general matters in medicine in relation to points in etiology or treatment often depends more upon the name over or under it of the author than upon the contents. Of a given number of readers who may look at the heading of this article, and then at the name of the writer, the larger part will likely next turn over three or four leaves, and not turn back to read it; so that, if there is anything wrong in it, the amount of resulting evil will be small, and if there is any good, the amount of advantage will be small also. Put over or under the same paper the name of some distinguished professor or book writer in the profession, and nearly every practitioner who picks it up will go through it closely and in detail, and absorb out of it all it contains, either of error or truth; and if the author should happen to be one of those eminent authorities upon whom the reader has "pinned his faith," that reader, in some cases, will take in all the error there is in it and make it more his own than if it had been something he had learned of his observation and experience. The cases where this will be done are those where the reader is more of a student than an observer, where observation and personal experience are lacking, and oral or printed teaching is the chief ground of information and basis of the truth. In our younger professional years we are all only students; and it happens to a large part of us, as we go along in life, that we come to unlearn many things implicitly received out of profound books and from brilliant lecturers. This is not to say that the books and lecturers are always astray, but that they are sometimes, and woefully so; and now and again it happens that in going astray, these brilliant men, leaders more because of their brilliancy than because of their common sense, lead others also into fatal errors. The observers of mental phenomena will not need to be told that it is not the stolid and unintelligent alone who indulge in the pleasure of accepting hobbies that are beyond reasonable conclusion; acute and intelligent minds are often led into errors by the adoption of crochets and whims; and other things being equal, it is perhaps the especially brilliant that are most likely to pursue phantoms and leave the realities behind. Happily, there is, in the great bulk of the workers in the profession, a conservative comprehension of the sensible that counteracts and measurably nullifies the occasional follies that the greater men tumble into. This conservative force, seldom loudly obtrusive, but always effectual, has in it more of good for humanity than all the great discoveries in medicine for a thousand years. This is not to belittle the discoveries, but rather to magnify them by bringing them into a comparison with the larger good in that judicious and thoughtful conservatism which ultimately sifts the useful out of what is new, and banishes the pernicious in it into retiracy.

So much as a preliminary justification of this paper.

A grand good thing it is that the learned men in the great cities get together in their society meetings and discuss subjects in medicine, which discussions the journals report and publish. Out of them the isolated rural practitioners manage to keep their otherwise benighted paths lighted up in a degree to the progress of the profession generally, and are not left to go groping all the time in the darkness of the past. We, who are thus taught and lighted, do not despise or belittle the benefits to be had from our distinguished brethren who hold up the candles; we acknowledge our indebtedness and voice our gratitude when occasion offers; nevertheless, we claim the right to judge out of our own experiences; and when those experiences show us that the lights held up are delusive and false, we claim the privileges of criticism and condemnation, and refuse to follow where they seem to lead. This condemnation from obscure practitioners resident in the backwoods places may be generally futile, and the criticisms possibly presumptious, especially when they assail the dicta of widely-known and highly-celebrated lecturers and book-makers in the calling; still, they will be made; and it has happened that such condemnation and criticism has helped to wash out some of the follies that now and then come from the larger men in the profession.

At one of the meetings of the New York State Medical Association, held in the city some months ago, report whereof was published, there was a learned discussion on *The Pathogeny of Pneumonia*, some of the deductions in which I am to assail in this article. The opening paper in the discussion was by Professor Flint, since deceased. Several eminent gentlemen participated in the exposition of the subject in hand, and, judging from the printed report, there was entire unanimity of conclusions on the points presented; despite which, those conclusions are not in accord with the observations and experiences of the large majority of general practitioners; and, being charged with an infinite amount of evil, they should be controverted and condemned. For though it may not quite so much matter, when we come to the treatment of cases of lung fever, as to what the cause of the trouble may have been, it will matter vastly as to the number of cases there will be to treat, whether or no people avoid those exposures that have generally been supposed to cause the disease, or, adopting the newer notion that the learned men endorsed, shall neglect the old precautions against acute lung troubles. When the general public abandons as an old whim the view that there is such a thing as "taking cold" from imprudent or unavoidable exposure, and getting in that way a case of pneumonia, and proceeds to act in accord with the newer idea that a "bacillus" is necessary for the disease, it may be reckoned as certain that inflammatory attacks generally will be largely increased, and that among them will be counted as prominent that disease of acute pneumonia discussed by the gentlemen alluded to. If, as a matter of professional business, we desire to treat as many cases of lung fever as it is possible to work up, it will be well not only to accept the new view of the learned doctors in council, but to inculcate it among our families; but if we shall keep to that nobler and much talked of principle that it is better to prevent than to cure, we shall stick to that older notion which is pronounced to be "without foundation."

The position taken by the gentlemen engaged in the discussion of the pathogeny of lung fever will appear by giving the first and main question in the matter, and adding thereto the conclusions arrived at. The question was: "Is acute lobar pneumonia a primary local inflammatory disease, or is it an essential fever, the pulmonary affection being secondary thereto, constituting its anatomical character?" That is: Is acute pneumonia an essential fever, such as we say scarlet or typhoid fever is, or is it an inflammatory disease, like an acute pleurisy? In still other words: Is its etiology to be referred to exposure to the vicissitudes of the weather under various degrees of conditions of the system, or to the contagion of a specific "coccus," to which, as the eminent men claim, all cases of acute lobar pneumonia owe their origin? Is it to "cold," as for centuries the close observers of the beginnings of the disease have believed, or is it to a "coccus," or "bacillus," or "microbe," or by whatever name you may choose to call a specific microscopic entity that must enter the blood and breed and riot there, before the "pulmonary affection" can come and the "anatomical character" appear, that we owe the phenomena of the disease?

On this question the conclusions of the eminent gentlemen who figured in the discussions and made up the verdict were as follows:

"Acute lobar pneumonia is characterized by an enormous exudation into the pulmonary alveoli; and this exudation may be rapidly absorbed, leaving the tissues intact."

"Acute lobar pneumonia never persists and becomes a chronic affection."

"It is never referable to any appreciable local condition, nor is it possible, by any form of traumatic inquiry, to produce the affection."

"Ordinary causes of local diseases (inflammations) are not capable of producing acute lobar pneumonia. The traditional belief that the affection may be produced by a cold is without foundation, and is being abandoned, even by the Germans."

"That a special or specific influence is invariably the cause of lobar pneumonia is rendered probable by its occurrence at certain seasons, greater frequency in certain climates, and occurrence at certain times as an epidemic disease."

"It differs from acute primary local inflammation in that at the outset there is a pronounced chill."

Let us look a little into these so-called facts and presumptive reasons, and see what they amount to.

In the first place, what are we to understand by the term "*lobar* pneumonia?" I have an objection to the use of the word "lobar," as not being so distinctly descriptive of either the precise seat of pathological action or the supposed specific cause of that action as it ought to be. In one sense, we may say that all inflammations of lung tissue, no matter what the cause of their beginnings may have been, are lobar—that is, they are in a lobe of the lung, one or both. We may presume, however, that the word lobar as the gentlemen use it, is intended to mean a pathological action in the anatomically defined *lobules* of the lung. But the employment of this word conveys no idea at all of the *cause* of that pathological action—and so is a failure, so far as a distinction of difference is concerned. If the word is employed arbitrarily, and for the purpose of indicating the existence of a specific disease quite distinct from what is sometimes called a bronchial pneumonia, or a catarrhal pneumonia, the exercise of a little common sense would have brought out some term expressive of the so-called or supposed cause—something indicative of the presumed pathogeny. Perhaps the term "cocci-pneumonia" would do: it would certainly have a definite meaning, and one easy to be understood. It would have conveyed the idea that what the gentlemen call lobar pneumonia had its origin and its only origin in the previous existence in the anatomically defined lobules of the lung of a distinct and specific bacillus, which set up there the inflammatory action. Receiving this, there would arise the question if it were possible to have any appreciable degree of inflammatory action in the lobules, whether of a primary character or as a secondary step in an essential fever, without involvement of the minute ramifications of the bronchial tubes and their terminations in the air-cells ? Did any such action ever exist ? Does the intercellular, or interstitial, or parenchymatous tissue, take on inflammatory action—specific or general—without having included in it the air-cells as well ? Theoretically that might seem possible, but it doesn't happen : so that to determine where the so-called lobar pneumonia ended and a catarrhal pneumonia began would be impossible; and if possible, it would not demonstrate the cause. But this aside.

" Acute lobar pneumonia is characterized by an enormous exudation," say the gentlemen. What has that to do with the cause ? Whether enormous or not depends upon the limit put upon the word ; but if enormous, it is because of the character of the tissue involved and of the amount of it. The amount of the effusion is simply a fact that exists quite independent of the especial cause. Mere amount of exudation, nor the fact of exudation, implies coccus, or proves coccus, or evidences, or even suggests any such thing. The amount of flux from the nasal passages from an ordinary cold is sometimes enormous—more enormous than the exudation in the substance of the lung ; but there is no reason for believing that there is a colony of cocci behind it ; no more is there to suppose there are cocci behind an exudation in the tissues of the lung.

" This exudation may be rapidly absorbed, leaving the tissues intact," says the authority. What follows from that, admitting the truth of the statement ? That it is absorbed (not always so very rapidly, however), may be, and in the cases where recovery takes place is generally, though not always entirely, true. But what has the fact of re-absorption to do with the factor of cause ? The product of pathological action is re-absorbed, in the recovering cases, whether the first impulse of the excretion be an inflammation proper or that of an essential fever. An amount of inflammatory action has taken place, or there would have been no product at all. There is the pathological fact, regardless of the first cause of it. Nature steps in to the clearing up of the effusion ; but that the natural process of absorption would remove a fixed amount of the exudate of an inflammatory action that had originated in the struggle of cocci any more than a like amount the product of an inflammation established by some other factor does not appear, and has not been shown. There is no evidence of any difference of this sort either given or understood, The inference that there is a difference, and that the difference argues a differing cause, is simply an assumption, without any basis of support. On the contrary —unless we are to conclude that the suppositious cocci have finished their work and departed—(and there is no reason given to show this) their presence should prolong the process of exudation, and of necessity also the process of absorption; so that, so far as the rapidity of the absorption may evidence for or against the cocci theory, the argument is against it. But putting suppositions aside, it will accord with the common sense of every reflecting physician who has any acquaintance with lung tissue to say that the rapidity of assumption of the normal condition of lung structure, after diseased action in it, over what may take place in some other parts of the system, is due simply to the character of the tissue itself and to the fact that, more than any other, it is subjected, in the act of breathing, to such contact of the air as no other part of the body is, and is thus so sufficiently aided to recovery as to readily explain why the process may go on faster than in some other organ. The possible comparative rapidity of the return of the exudate cannot be shown to have any connection with cocci, neither can the fact that the tissue may remain intact after the absorption be shown to have any such connection: the point endeavored to be made here by the eminent gentlemen is wholly assumed and is without basis except of illusion. As a matter of fact, the tissues, after an attack of interstitial pneumonia, do not always remain intact; the assertion of distinguished gentlemen that they do is an erroneous one; and that other assertion that "acute lobar pneumonia never persists and becomes a chronic affection," is also erroneous, the authorities despite. It is within the observation of hundreds of practitioners that some cases of pneumonia persist in taking on a chronic or semi-chronic condition, more or less of dullness on percussion continuing for weeks, and in some cases for months; portions of lung tissue remaining in an abnormal condition, and the air cells continuing impervious to the admission of air. And if we will remember that in many cases of pneumonia, not wholly bronchial, there is more or less, and often a considerable quantity of blood poured into the air-cells, not simply by the exudation of the blood-corpuscles through the walls of the arterioles, but by the actual rupture of the tissues, it will become obvious that the tissues do not "remain" intact, and cannot; but that more or less rapidly—in some cases in perhaps a week, and in some others not in three or four weeks, and in some not in as many months—they are *restored* to their normal condition by a process of healing and repair. The tissue does not "remain"—it is *restored*. This process of restoration, where the area of invasion is small and the amount of exudation small also, may be, and sometimes is, accomplished with what the gentlemen call rapidity; but when the amount of lung involved is large, the mucous secretion "enormous," and the extravasation of blood from the ruptured vessels considerable in quantity, and these materials are not expectorated, but remain in the lung and become packed there and measurably hardened, producing the condition of hepatization, the processes of re-absorption and following repair are of necessity much more protracted, and require some weeks for their complete evolution. Certainly it is not uncommon to find that for months after a severe attack of lung fever, in cases where a large area has been invaded, the lung has not entirely cleared up. When we are, therefore, told, by no matter how eminent authority, that in such cases the tissues remain intact, we simply do not accept the statement as a truth; it is contrary to our observation and experience; it is a special plea without substantial basis, and which common sense rejects as untenable and incorrect. The "anatomical characteristic" which marks the "pulmonary affection"—that is, the exudation—is characteristic evidence of local inflammation, and not of essential fever. An essential fever may exist without any corresponding anatomical or pathological fact in the way of exudation; but an acute parenchymatous pneumonia never exists without it; it is characteristic of the disease, and stamps its identity. The condition presented by the distinguished advocates of the cocci theory of "acute lobar pneumonia"—that is, the patent "pulmonary affection"—to argue an essential fever, so far from showing anything of the kind, are in direct opposition to it, and become striking evidences of a local inflammation.

I have said that the statement that "acute lobar pneumonia" never persists and becomes a chronic affection is contrary to the observation and experience of hundreds of ordinary physicians. But if we admit that the statement is true, it would be no evidence of the connection of cocci with the disease. The "pulmonary affection" which "constitutes its anatomical character" is admitted. That the anatomical character is the result of an inflammatory process is not controverted; that process has taken place in every case, and the question is as to the ultimate or first *cause* of it. What are the evidences brought forward to establish the connection of the pneumo-coccus with every case, and from that argue an essential fever?

The chief and about only reason for accepting the view given seems to have been that some German investigators — Krebs, Leyman, Eberth, Friedlander—in experimental pursuits after micro-organisms, claim to have discovered that in connection with pneumonia sputa the presence of a specific coccus is to be found, and that this coccus or bacillus is the sole cause of the so-called lobar pneumonia. Admit the fact of these reported finds of foreign investigators, and then accept the extreme notion that every form of essential fever and many other forms of disease are to be referred each to its special microbe, and it is an easy step to the pneumo-coccus as the cause of lung fever. I do not propose to here enter into a discussion of the germ theory of disease in general; it is not necessary to the points in this paper to do that; but I put in here, episodically, that there seems to be a prevalent epidemic of bacillus-fever raging at the present, but from which the profession will mostly recover in due time, and over which the doctors of nineteen hundred and something will broadly smile as they read about it. But this aside,—the presence of cocci in the sputa of lung fever patients is not sufficient to prove them the cause of the disease. Whether they are implanted in the tissue of the lung, as the first process in the disease, or are inhaled into the air tubes and incorporated with the exudation after the inflammatory process has begun, does not appear; indeed Dr. Sternberg had claimed, before the discussion we are considering had been held, that the "pneumonia coccus of Friedlander was identical specifically with a micro-organism previously described by himself, which is commonly found in *normal human saliva.*" Receiving this—and it is much more rational to accept it than to accept the theory of cocci-cause— and the whole position that the gentlemen spoken of have attempted to build on becomes unstable, and their structure tumbles down.

And what is the further collateral evidence brought forward to sustain the micro-organism theory? Let us see:

First.—The pneumonia "is never referable to any appreciable local condition." I confess to being so obtuse that I do not exactly understand what this statement means: it is ambiguous; the intention does not appear. If by "local condition" was meant the environment of weather, the exposure to varied vicissitudes of climate, the subjection of the person to draughts of cold air when heated, the depressed state of the circulation after some periods of extra exertion, the going about with wet feet by persons not accustomed to it, and such like things, then the "local condition" is easy to be appreciated and readily understood. It is just exactly these kind of appreciable conditions that originate attacks of pneumonia, as has been noticed thousands of times.

But if by "local condition" something was meant referable to the organs affected, then perhaps it is not to be appreciated beforehand, nor is the condition appreciable that takes on an attack of catarrhal pneumonia any more. The assumption in the ambiguous quotation given is not worthy a trusted teacher in medicine, and as an argument is utterly worthless.

Secondly.—"It is not possible by any form of traumatic injury to produce the affection." What then? It does not follow, therefore, that there are living organisms in the case. It may not be possible to produce asthma by an injury, any more than pneumonia; but if asthma comes, are we to take it for granted that there is coccus behind that also? But the statement is not quite true; for that inflammatory action has been set up in the lungs by mechanical and chemical irritants is within the experience of many medical men, in the same manner that the same things set up inflammations in other parts of the body. The lung tissue is not in this regard an exception to the universal law that holds as to all the tissues of the economy, except that from its delicacy it is more susceptible to trouble from contact with irritating substances than most other parts of the system.

Again, to say that "ordinary causes of local diseases (inflammation) are not capable of producing acute lobar pneumonia," is to state what has no reasonable backing. I distinctly assert that those "ordinary causes" which sometimes bring on a tonsilitis, a bronchitis, a conjunctivitis, a pleuritis, or a rheumatism, bring on a pneumonia. No physician has practiced his calling in the northern states of the Union for any considerable time but has over and again seen cases of pneumonia brought on by those ordinary causes which these scientific gentlemen undertake to rule out of account. "The traditional belief that the affection may be produced by a cold is being abandoned by the Germans" may be true; very wise people frequently abandon traditional beliefs; but that fact does not prove that the old belief was an error. In this case no rational evidence is brought forward to show that the old opinion was an erroneous one; the statement of the gentlemen is simply a bold assumption put out to back a new theory; the lack of "foundation" is not in the "traditional belief," but in the unsustained assertion of the paper in which it appeared. It is within the observation of most practitioners in northern countries—it has been in the observation of physicians from the earliest days of medicine till the present—affirmed, reaffirmed, and over and over again corroborated by abundant experience, that cold, in the varied ways in which it strikes the system, is the most potent and efficient cause of acute lung fever. It has become a notion with some over-smart gentlemen of the profession, in the last few years, to ridicule the traditional belief of *taking cold* from careless exposure or unavoidable contact of currents of cold air when the system is heated, or by going into cold rooms from warm ones, or exposing the body without sufficient clothing, or in other ways of like sort; but so many examples of the kind have always been noted that the connection between exposure and following disease as cause for effect cannot be cast from the conviction, nor can it be cast from the conviction that prominently among the diseases thus contracted stands this one of acute pneumonia. No amount of argument can eradicate this impression from the minds of the great mass of medical men; nothing but absolute proof will change the opinion; and the proofs have not yet been submitted. Many a heretofore robust man has gone down before an attack of lung fever, the initial step for which was exposure in a cold rain storm: many a fair maiden has succumbed in like manner from imprudently stepping from a heated ballroom into a colder apartment, clad only in her dancing attire; and there was not a single micro-organism in the cases. Many more will be taken in like manner for like causes; and if the new theory which eminent gentlemen have endeavored to boost into acceptance shall prevail, cases of pneumonia will be largely increased, because the adoption of the new theory will encourage people to be more and more careless as to exposure to those causes heretofore supposed to originate that disease.

Again, "that a special or specific influence is invariably the cause of acute lobar pneumonia is rendered probable by its occurrence at certain seasons [and] and greater frequency in certain climates" is not true. True indeed, the disease is more common at certain seasons and in certain climates; but so far from these facts arguing the presence of cocci they argue the reverse, and very powerfully argue it. What is the history of the relative frequency of lung fever as to season and place? Notoriously it is a disease of cold countries and of extreme cold and changeable weather; it is emphatically a winter disease. The five months inclusive of December to April in temperate climates, show vastly more cases of it than the other seven of the year; from the first of June to the last of October we see but comparatively little of it; and in the especially summer season of June to September inclusive scarcely any. A lung fever in the summer season, when the hypothetical cocci ought to be in the greatest degree of activity in the lung tissue, is a rarity of infrequent occurrence. So, also, in the lower latitudes and warmer regions of the world, the disease is comparatively infrequent. All this argues, and strongly argues the pronounced effect as a most potent cause of acute lung trouble of those conditions of weather and exposure thereto which result in "catching cold" instead of catching cocci; they evidence the exclusion of micro-organisms from the account, and banish them to that realm of speculation which is their most congenial home, if not their sole and exclusive one.

Again, "Its occurrence at times as an epidemic disease." This reason is the single and sole one given in our quotations that has in it the essence of validity. As there is a basis here worth consideration, I leave it till the "sixthly" of our text is disposed of, and will then look into it for a little.

And to the sixthly—"It (pneumonia) differs from acute primary local inflammation in that at the outset there is a prominent chill." How differs? Was it the experience of the eminent author of the paper discussed, that acute rheumatism, acute pleurisy, acute enteritis (not typhoid), acute peritonitis (not septicæmia), acute hepatitis, and other acute inflammatory diseases, do not have a "pronounced chill" at the outset? Is it in the experience of other practitioners, that in a case of acute inflammation of the lungs there is in this respect a departure from the ordinary course of things in other acute inflammations? If so, then experiences must stand in absolute contradiction; for, in the observation of the writer (and the observation of the writer is just as good as that of the most eminent man in the profession), a "pronounced chill" ushers in an inflammation in other organs and parts of the system; not universally, indeed, but as the rule: and the observation of the writer is in exact accord with that of thousands of others. A pronounced chill is not universal in any disease; even those fevers we call "essential" sometimes come on in an insidious manner and without any chill at all; that emphatic disease we call chills-and-fever often puts in its irregular regularity with an omission of the usual first step. Acute pneumonia does the same. Whether if the chill come it is "pronounced" or not, will depend upon the severity of the attack and the amount of tissue involved: and what is true in lung inflammations is true of acute inflammations in other parts of the body. But if we should admit that the chill in an acute pneumonia is more pronounced than what accompanies the onset of an inflammation in any other part, and is more general, or is even universal, it affords no evidence of the presence of an active microbe; there is nothing to determine any connection between that particular phenomenon and the hypothetical factor; it does not show that a coccus has taken up abode in the lung and originated an essential fever, of which the "anatomical character" of an inflammation is only a secondary step, but that the whole system has received the shock of some depressing cause, which, by some process none of us exactly understand, is, in its influence, thrown upon the nervous filaments and vascular capillaries of the pulmonary organs, producing first congestion, followed by exudation from the mucous surfaces, extravasation of blood from the swollen and ruptured arterioles, impaction of the products, exclusion of the air and hepatization. So far as all this may differ from the effects produced in any other part of the system by a like shock determined to that other part, as often happens, is due to the anatomical and physiological difference between the structure and functions of the lungs and those of other organs or parts of the system, and to the susceptibility to some pathological changes in lung tissue that cannot take place elsewhere because of that difference of structure and function. The pronounced chill has, therefore, no regard to the etiology of the trouble; it does not on the one hand argue an essential fever, nor on the other a primary inflammation; but the steps of the process are those of a primary inflammation from the outset to the resolution.

We have thus gone over the reasons given by Dr. Flint, save one, and the facts upon which they were claimed to be based, in his attempt to bolster up the theory of essential fever in pneumonia, dependent specifically upon the presence of a colony of microbe in the lungs. The facts as applied are lacking in cogency and force; they do not stand the test of a caustic examination, and his deductions from what may be readily yielded of them are erroneous, deceptive, incapable of standing before interrogation, and calculated to mislead and misdirect the inexperienced members of the profession. So much of the discussion on the matter as it was my fortune to see was an abortive labor to give birth to a false conception, and the product of the effort was defunct from the hour of birth.

Going back to the one point I have not criticised, namely, the fact that acute pneumonia sometimes occurs as an epidemic disease,—I have never *seen* anything of this sort; but that does not evidence the non-existence of such epidemics; there can be no rational doubt that they occur; and it may reasonably be said that they indicate the influence of some other cause than the ordinary ones that originate the sporadic and isolated cases of the disease. I remember of such an epidemic some twenty years ago, in an adjoining town, among the pupils of a select school. It is not unreasonable to conjecture that these occasional epidemics of acute pneumonia are the result of some special and specific cause, as of likewise those much more frequent displays of epidemic influenza, and that corresponding and perhaps co-related epizoötic affection that now and again tackles large numbers of horses in different parts of the country, and which are still not quite understood. It is possible, as of the influenza and the epizoötic, that there is in the pneumonia epidemic a factor of contagion. There appears to be in activity some force not present in the common sporatic cases of lung fever; what it may be is not definitely determined; and it is possible that here the pneumo-coccus of Friedlander has place and power. But if this is admitted it does not cover in the ground taken by the advocates of the cocci theory, which is that the cause of a lobar pneumonia is *invariably* of that specific character.

And this brings up the matter of different causes producing the same disease. Of some acute troubles we generally accept the theory that the etiological factor is always the same, say of small-pox, scarlet fever, measles, etc., and some of the profession, but not all, hold to the like of typhoid. But that there is a possible deduction to be made from the full truth of this theory may be indicated by a quotation from some remarks of my own in the Connecticut Medical Proceedings of 1879, to wit: "Somewhere, at some time, there was a case of typhoid fever, a case of scarlet fever, of diphtheria, of small-pox, of syphilis, which were not *communicated,* but *arose*; they were the spontaneous outcomes of certain causes or combinations of causes not definitely understood nor intelligently comprehended, but none the less potent in results. To assume that the same causes and combinations which eventuated in the first case of any of the diseases named are impotent to ever produce a second or a third is absolutely irrational; it is none the less irrational to assume that those causes and combinations, in so far as they pertain to all the phenomena of disease, can never exist but once. That like causes that originate a dysentery in one season may and do originate another dysentery in another season no one will deny; and why any the less a typhoid, a scarlatina, or a diphtheria? Who asserts that they do not, is justly holden to prove the correctness of his postulate."

And as supplementary to this, a few words of self quotation from the Philadelphia *Clinical News* of January, 1881, in relation to the etiology of diphtheria and its supposed identity with membranous croup. "The theory of the identity of the two diseases based upon identity of deposit, is a theory based upon a result and not upon a cause. The fallaciousness of the deduction may be illustrated by observing that the secretion from the mucous membrane of the nostrils provoked by the irritation of a pinch of snuff, is physiologically and chemically precisely the same as the secretion provoked from the same source by the irritation from taking cold; no microscopical investigation nor chemical analysis can detect any difference between them; but etiologically and clinically there is a difference."

Applying this reasoning to the matter in hand, and accepting it as being based on well-observed facts and also rational, we may be helped to understand how it is quite within the probabilities—how it may be regarded as certain—that the lobar pneumonias of our writer, or the broncho-pneumonias, or, better, and as covering in both of these, acute inflammations of the lungs, may not in every instance have origin in the same cause. To admit that the pathogeny of those cases of epidemic lung fever which occasionally occur from some cause not quite understood, may lie in the coccus of Friedlander, or in some other heretofore unrecognized influence, is not to throw out of account as an antiquated delusion that traditional belief of origin in "taking cold," which Dr Flint and his *confrères* have the effrontery to assert is without foundation. The foundation of that traditional belief goes back for two thousand years into the observation and experience of the earliest practitioners of medicine; it has been confirmed by the observation and experience of their successors in all the intervening years, and rests to-day in the observation and experience of ninety-nine of the hundred physicians who pursue their calling in the colder climates of the earth. And it will not be abandoned until some more cogent indictments are brought against it than have heretofore been presented.

As a psychological study, it is interesting to observe with what ease the most able and learned men in the varied callings and professions of life accept of many delusions which the common sense of the less gifted and brilliant reject on sight. It argues little against their ability, their learning, their talent, and less against their genius, that the most eminent men are open to this weakness. And it is not the doctors in medicine alone who indulge in this direction; the doctors in law do the same; and in an eminent degree, so do the doctors in divinity. If we but remind ourselves that that great-minded jurist, Sir Matthew Hale, believed in the verity and the potency of witchcraft, we shall cease to wonder that intelligent people in our own age accept the delusion of modern spiritualism, or that they have unbounded faith in the power of incomprehensible infinitessimalism in medicine: so seeing, we shall not be surprised that some of the able among our professional teachers now and then lay hold on illusions builded in the air; but it is none the less a misfortune, and especially in the fields of medical teaching and practice. If an obscure physician should endeavor to promulgate the notion that the traditional belief that an acute lobar pneumonia could be induced by taking cold was without foundation, he would become a fair subject for ridicule, and very little ill effect would follow from his teaching. But when the "big injuns" of our profession—the "mugwumps"—enter into labored efforts to enforce the same delusion, the amount of mischief that may result becomes incalculable; for the reason that the dicta of the great authorities are too unquestionably accepted by a thousand easy minds. It is notorious that we are treating lung fevers with a less per centage of recoveries than formerly. An elucidation of the reasons for this would make a lengthy paper; but one reason, briefly stated, is, that we have of late years been taught to attack it as an essential fever, due to an imaginary colony in the lung tissue, when, as a pathological *fact*, it is an acute inflammatory disease.

Rocky Hill, Conn., August, 1888.

ARTICLE II.

THE FIELD AND LIMITATION OF LAPAROTOMY.

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It may appear superfluous to my hearers to discuss a subject which has been so ably and so frequently ventilated for some years past. My chief object is to map out or define the limit of the operation known as laparotomy, and to show when and by whom it should be performed. I shall not allude to the pending differences as to the etymology of the word or discuss its appropriateness, but shall endeavor to show how often its indications are unheeded until too late to be of service in saving human life. There exists great distrust in the mind of the laity as to the propriety of such an operation, and not without cause, as very many in our profession are exceedingly slow to advocate its necessity when the proper time has arrived for its performance.

The field for operative work inside the abdomen has so much widened as to include every organ and tissue, and this even in the last decade, marking as it does the most important advance in surgery. Even the liver, spleen and pancreas have been invaded, and they are no longer set apart as without the pale of safe interference. We owe our thanks greatly to Tait, Wells and Senn for these surgical triumphs, as they have shown beyond controversy the possibility of reaching and dealing with their abnormalities. It may now be justly claimed as safer to incise an hepatic abscess through an abdominal wound than to aspirate and possibly infect the abdominal cavity. All those who have witnessed or performed a cholecystotomy or cholelithotomy can understand how such splendid results follow so wise a procedure. Some operators have boldly excised portions of the liver, but we will not include this in the present brief paper, though it is but necessary to allude to closure of incised or other wounds of the liver if to be reached through an abdominal incision.

I will not consume your time by alluding to the special surgery of the spleen or pancreas, though the former has been removed, excised and otherwise treated by the surgeon, while the latter organ has, notably by Senn, been reached and treated for cystic degeneration.

The stomach has been repeatedly operated upon for stricture of either extremity and repair of various injuries, such as wounds, etc., also for the removal of foreign bodies, and gastrotomy for stricture of the œsophagus.

The surgery of the intestines is now an open field, where there are brilliant cases on record showing its possibilities, and we may infer from the past what may result from continued observation and experience in this direction.

But few years have elapsed since Hamilton of Washington, Bull of New York and Parkes of Chicago reported cases which almost revolutionized intestinal surgery. We know in this, as in other history, how earlier pioneers perhaps had some success, but not lasting reputation; they did not have the Czerny or Lambert suture, or did not have such perfect surgical technique as we have to-day. In fact, we no longer hesitate to open the abdomen when we see clearly that a bullet or knife has entered the peritoneal cavity; the opium or let alone policy has vanished from progressive minds.

Thus we have resections and exsections for wounds, ruptures, lacerations, tumors, or carcinomatous infiltration, the latter alone of doubtful expediency.

It is possible in perforating typhoid ulcer that a laparotomy may save the patient.

It would be interesting to know what effect the excision of a typhoid ulcer or ulcers would have upon the course of the fever if such an operation could be tried.

Enterostomy for the removal of obstructions may safely be resorted to.

Laparotomy for peritonitis from perforative appendicitis will surely become a fixed necessity.

The kidneys, ureters and bladder are reached by laparotomy by many surgeons, though often without touching the peritoneum, as in the high operation for stone. But we have accumulating evidence in favor of nephrectomy rather than nephrotomy in cases where the hydro or pyo nephrosis has caused grave structural changes in the kidney. Mr. J. Knewsley Thornton decidedly prefers a laparotomy in removal of the kidney.

Laparotomy is justifiable in various pathological conditions of the pelvic organs, and it needs no comment of mine to influence the pending sentiment favoring such operation. If ovaries and tubes are so frequently removed for chronic disease, it cannot be questioned that in cases of abscess in and around the fallopian tubes and in ectopic gestation, there should be no longer any doubt as to the propriety of such a procedure.

Cysts of the peritoneum are often removed, and various diseases, such as tubercular and suppurative inflammation, treated by laparotomy and the necessary cleansing and draining.

Having named in a cursory manner some of the possibilities of abdominal surgery, I ask your forbearance while I dispose of another part of the subject. The classification of these operations into any rational order for discussion is indeed difficult, nevertheless I have to suggest the following in view of the fact that I desire to show to whom we should look for successful operative work.

If I formed two columns and placed all chronic cases such as cystomas, fibromas, etc., etc., in one, and all the acute cases, or those of emergency, such as acute intestinal obstruction or wounds, rupture of tutal gestation in the other, I should then give my idea of the operator to be chosen for the work in hand.

The former can be and should be treated in special hospitals by skilled operators, while the latter must, in view of so large percentage of our population being rural, be operated upon as often by the general practitioner who *nolens volens* has the case in charge as the abdominal surgeon. Just here occurs the strong desire to discourse upon the utter inability of so many practitioners to make a proper diagnosis, but for the present I forbear. Medical literature is replete with reports of cases where at the autopsy some remediable condition was found and could only have been known and reached by a laparotomy. And yet not the half of these unfortunate causes have been published.

We will occasionally see a report where after an obstruction of the bowels lasting for many days, a portion of gut comes away, having sloughed, following intussusception, the patient's life in the mean time in jeopardy.

The attendant takes a considerable degree of pride in the successful conduct of the case, while it must, notwithstanding all this be reckoned bad surgery, for dame Nature, or act of Providence or accident saved the patient's life, and not the doctor. In the *American Journal Medical Science* for July, 1865, a case is recorded showing the cause of death in patient suffering from obstruction of the bowels to be a small knuckle of the colon twisted upon itself; at the *post-mortem* turning back of this at once removed the cause of the obstruction. The writer very properly suggests laparotomy in a similar case. As it involved no surgical repair of tissue or any dexterity beyond that possessed by the average surgeon, it certainly could have been accomplished. Public sentiment, at that day, even in the medical profession, did not justify laparotomy, though we know the successful operator in any case would have been loudly applauded.

These cases of obstruction are so often encountered as to make frequent allusion to laparotomy a necessity, and yet how often patients are really hastened out of the world by attempted purgation and other measures intended for their relief.

This paper is not intended to be a compilation from medical works on this subject, showing statistical and other matter already on record, but is rather intended to quicken the growing sentiment in favor of early resort to laparotomy when indicated. In thus dealing with the subject I can best illustrate the thought by the following cases.

In 1874 I was called to see Miss ——, æt 18 years, who had been suffering from supposed colic for two days, andwho had taken morphia yet without much relief. There was constipation and tympanitic distension of the abdomen, pulse, 110, temperature, 101, with tenderness over region of illeocœcal valve. Purgatives were vomited, enema came away not colored. In short, after two days the patient was dead. The autopsy revealed a gangrenous vermiform appendix with small gravel (probably cholesterine) therein, with general peritonitis following this. In this case the peritonitis was unsuspected at least as to its severity. It was in the days when with the advent of the clinical thermometer too much reliance was placed upon its readings. A laparotomy and excision of the appendix would probably have saved this poor girl.

In 1876 I was called in consultation with Dr. ——— to see Miss ——, who had been successfully operated upon by Dr.———, a famous gynæcologist for dysmenorrhœa oöphorectomy three months since. I reached the patient's side just to see her die of internal hæmorrhage after several days' illness. There was unquestionably hæmorrhage from the old pedicle. A laparotomy done when the collapse commenced would have revealed the dangerous bleeding point, and it could have been secured.

In August last I was called in consultation to see a lad æt. 12 years, who had been kicked in the epigastric region by a horse. He gave all the signs of grave internal injury at the time of the accident, but appeared to rally under alcoholic stimulants. At the attending physician's next A. M. visit collapse had commenced, but the consultation was set for late in the afternoon (six o'clock). The boy was then nearly dead, and I had not even been told to bring instruments and be ready to operate.

The autopsy revealed a rupture of the jejunum the size of a dime, with general exudative peritonitis from fæcal extravasation. Half a dozen sutures would have closed this door of death.

Immediately after my arrival at home in June last from a long vacation I was called to see a former patient of mine who had been dangerously ill for five weeks, at first with puerperal fever, and then passing into a "nameless condition," in which powerful stimulants, anodynes and antipyretics were given without avail.

Digital examination discovered a small (probably tubal) abscess in the left side, which doubtless was the cause of the alarming illness.

Fortunately for the patient, she was enabled to run the gauntlet of the many dangers incidental to such prolonged high temperature and the presence of an abscess in danger of rupture into the peritoneal cavity. The medical attendant had battled bravely for this woman's life, and had saved her to her family if not to perfect health. I doubt very much if she will ever attain her former health while this abscess remains, even if it is in the fallopian tube, and must remain a source of danger and suffering. I could not obtain consent for its removal.

This is a case narrated not for the purpose of showing a victory for the so-called conservative over surgical treatment. It is called up to help form a basis for future action, and the question arises: Did the patient receive the proper treatment? Is it wise to permit a patient to remain in such grave danger, when it is known that by abdominal incision the abscess can be reached and removed, washed and drained?

I must say in this case there was no pointing or apparent possibility of reaching the pus with safety through the vagina. I entirely and emphatically refuse assent to the declaration that her chance recovery proves anything favorable to the "let alone" policy.

These or pelvic abscesses frequently are too high for drainage through the vagina, and it has been left for the laparotomist to discover that they frequently, perhaps generally, form in the tube and have their investment made of peritoneum, including that covering the intestines, held together by adhesions. It is difficult to prove that any abscess opened per vaginum is without the peritoneum, for they may be, as above stated, limited to the pelvic cavity by adhesive inflammation.

Most of the cases alluded to were of that period of surgical history when it was rarely possible to obtain consent for an abdominal section in the country, and, indeed, it was seldom resorted to by the leading surgeons save for large tumors.

These cases are mentioned merely because they typically represent different conditions and could be greatly multiplied, as they illustrate the matter in hand, and should serve to strengthen our conscience in the direction of early and vigorous methods to prevent almost certain death if left undone many hours.

We have abundant evidence that in septic peritonitis, or even in the tubercular variety, great success has followed simple incision and washing out the peritoneal cavity.

We know beyond doubt that warm water poured (temperature 100-110°) into the abdominal cavity of a patient feeble from shock often serves to revive and sustain him even under very dispiriting circumstances. This alone should embolden the surgeon to disregard shock in so far as to wait for its disappearance.

My experience has uniformly been that grave peritonitis accompanies shock in abdominal injuries. Again, in observing the experience of other operators and writers, we see how rarely, if ever, the abdomen is opened unnecessarily in acute or sudden disease or accident, while there are often indications that too many operations are done for removal of ovaries and tubes, etc.

The limit, then, in operative work of the second class, or in acute disease, is nearly the same for the general practitioner as the skilled special surgeon. The exigencies of the hour demand more and better surgeons in the smaller towns and villages, for there is no time to send many miles to the city for a special surgeon. Moreover, the statistics of surgery in America will immensely improve when the profession, as a whole, learns when to operate in such cases as acute intestinal obstruction, ectopic gestation and delayed labor.

There should be more good operators, and more still who early diagnose the necessity for an operation. It appears just here best to speak of the prognosis of diseases or injuries of certain organs above or below the level of the umbillicus. To a fair operator it is much easier to reach the intestines or peritoneum omentum and pelvic organs, if the incision made below the umbillicus will answer.

It becomes at once more difficult to reach the liver, spleen, stomach, etc., *i. e.*, above the line alluded to, and in most cases a skilled operator only can succeed in any procedure. In cases of perforation by bullet or in stab wounds or in rupture, it goes without saying that only the brave, bold surgeon succeeds, who promptly faces the urgency of the case and acts then. How often delays have killed, the great unknown will never tell. We will suppose a case. Dr. A. is called to see a child who has fallen heavily upon the abdomen. He is in shock, has vomited (possibly blood in the vomit). The abdomen is distended and sensitive to touch. The pulse is feeble and, in short, certain death staring the little fellow in the face unless prompt work is done. There are two courses to pursue. One is to tell the parents that it is necessarily a fatal case, or that a blow often produces syncope by concussion of the solar plexus, and that the chances are as good without as with operation. At any rate, I will stimulate the child, and if he does not rally I will send for Dr. B., and we will discuss an operation. The parents often unwittingly accept the above advice.

Another way would be somewhat as follows. Your child is evidently suffering from grave internal injury. The symptoms are those of internal hæmorrhage or rupture of the viscera. An operation is the only resource known to medicine or surgery by which it is possible to save the child. If upon opening the abdomen, the injury is readily found and remedied, the child will have a fair chance for life. Should the complication prove too severe for repair it can only be known upon inspection, and an exploration would not shorten life.

Should the great error be made of doing an unnecessary operation no harm would result necessarily, save to the reputation of the surgeon. In most cases upon proper consultation, early after accidents of this kind, consent can be obtained to perform any operation. But a halting or doubting expression of opinion effectually debars all chance for operating until too late. Mr. Tait has demonstrated beyond the shadow of a doubt the feasibility of operating successfully in ectopic gestation. Dr. Bantock has recently operated successfully for the same condition (private letter), while in America the list of successful operations is constantly growing. The already exceeding length of this paper compels me to summarize as follows:

1. All abdominal organs may be reached and successfully operated upon if the operator is skilled in abdominal surgery.

2. Every surgeon should be prepared to open the abdomen if the symptoms indicate serious acute disease or injury, as the cause may be easily found and remedied.

3. If the case is one of malignant disease, and is attended by great depression, it is better to close the abdominal wound without further interference.

4. Early opening of the abdomen in acute diseases or following accident is imperative. Delay is often deadly. Critics have never claimed that too many operations are done for such complications, although we often see criticisms as to the propriety of ovarian and tube operations.

Laparotomy followed by washing and draining the abdomen, is the recognized and only successful treatment of suppurative or tubercular peritonitis.

6. In diseased uterine appendages their removal is justifiable when the patient's general condition demands it. In severe neuralgias, dysmenorrhœa and grave hysteria at the mouth, the only remedy *is to remove existing disease.* This rule applies to pelvic abscess when caused by a suppurating tube or otherwise.

ARTICLE III.

ETIOLOGY AND TREATMENT OF YELLOW FEVER.

By DR. PAUL GIBIER, Supernumerary to the Chair of Pathology of the Museum of Paris; formerly House Physician and Surgeon of the Hospitals of Paris; Laureated by the Faculty of Medicine and by the Academy of Medicine of Paris; Given a Gold Medal of Honor (Cholera, 1884); Officer of the Academy, Chevalier of the Legion of Honor; Commissioned by the French Government to study Yellow Fever (Fifth Scientific Mission.), &c., &c.

Translated for GAILLARD'S MEDICAL JOURNAL by
Joseph A. Pacetti, M.D., Jacksonville, Fla.

1.—*Oral Communication to the Academy of Sciences of Havana, February, 22, 1888.*

In the beginning of 1887 Dr. Domingo Freire, a Professor of the Faculty of Rio Janeiro, arrived in Paris with the object of presenting to the scientific world his studies on yellow fever. He was presented to me by Dr. Rebourgeon, a classmate of Dr. Freire in Brazil. As my position at that time was Director of the Laboratory of Comparative Pathology of the Museum, I unreservedly placed it at the disposal of the two, and forthwith they began and repeated the experiments that Dr. Freire had already made public. The doctor wished me at the time to examine the cultures which he brought with him, and that I apply the new methods of bacteriology in the investigation, because he had not done so.

In recompense for this disinterested part of the work, Dr. Freire graciously associated me in the communication which in his name and that of Dr. Rebourgeon he presented to the Academy of Sciences of Paris last year.

In consequence of this communication, the Minister of Public Instruction has confided to me the mission of studying yellow fever in such places where its presence is most frequent, and at the same time to study the means and prophylactics by which to combat the disease.

In the beginning of November I landed in Havana and immediately began my investigations, which I have the honor to make known and which I present to you as concisely as possible.

First.—November 16.—I selected from quite a number of patients suffering with yellow fever one which I judged most grave, for the purpose of procuring specimens of his blood and urine. The fifth day of the disease there was fever, albumen, black vomit. Case fatal.

Second—November 17.—From an autopsy made eight hours after death, I procured blood from the left ventricle and from the right auricle, urine through vesical walls, bile in the vesicula, and some of the contents of the intestinal canal. I placed in alcohol small pieces of the liver, the spleen, the kidneys and of the intestine, to submit them later to microscopic examination.

Third—November 18.—In the autopsy of the patient examined on the 16th—and ten hours after death—I got anatomical sections for microscopic examinations as in No. 2.

Fourth—November 24.—From a patient third day of disease I got urine. Case fatal.

Fifth—November 27.—Among many patients examined, I selected the worst case and procured blood and black matter vomited. Case fatal.

Sixth—December 14.—From a patient in his fourth day I got blood, urine and black vomit. Case fatal.

Seventh—on the same day.—Patient in third day of fever. I got blood. Case favorable.

Eighth—December 22.—Examined a grave case. Abundance of black vomit, hæmorrhage from the mouth, etc. On the twenty-third, two hours after death, I got blood from the heart, serum from pericardium, urine directly from the bladder, and some of the contents of the intestinal tube, which had the appearance of blacking, also small pieces of the viscera, and placed them in alcohol.

Ninth—December 28.—An autopsy made fifteen minutes after death, I got some of the contents of the empty gut, which were in a black, liquid state, also anatomical sections.

To avoid repetitions, I will explain in a general way the manner in which I have examined the liquids obtained and the methods ordinarily used in bacteriology. The blood has been examined, when time was permitted, from fresh specimens, and again after having been dried and colored; the same has been done with the urine and black matter.

I have also placed in jelly agar-agar, for culture, a multitude of plants made with atoms of blood, urine, bile and pericardial serum; besides, the urine has been placed or planted in preparations of gelatine spread upon plaques. One cubic centimetre of this liquid was mixed with the first tube of gelatine of the series.

A number of anatomical sections from different organs have been made and colored, with the object of enabling me to discover the presence of microbes.

Results obtained.—Having arrived at this stage of my work, it grieves me much to make a declaration which places me in direct opposition to the results so precisely described by Dr. Domingo Freire, but duty compels me to do so. The results of observation and the interest of humanity obliges me to say what I believe to be the truth.

The Blood.—In a great many preparations, fresh and colored, it has been impossible for me to prove the existence of micro-organisms. My many efforts at different times to cultivate them have been without result—*sterile.*

The Urine.—Treated by the same process as the blood, has constantly given negative results. In the first case given to me for examination I believed that I discovered a micro-coccus something like the one that Dr. Freire thought he had seen in the urine and in the humors; but, after a methodical examination, I have been obliged to renounce such belief, because the micro-coccus in question I found to be nothing more than an organic granulation of no importance. The cultures made on plaques, prepared as above mentioned, with one cubic centimetre of urine, should have populated the first plate with colonies if the urine contained microbes, but without such result.

The pericardial liquid, the urine, the bile, as well as the blood, did not contain micro-organisms.

The numerous sections made in the different viscera, with exception of the intestine, have not demonstrated the presence of the microbe that I was searching for and expected to find therein, for I must confess that I began these investigations with the preconceived idea of confirming those of Dr. Friere.

In presence of such negative results my attention turned on the digestive apparatus. In effect, in yellow fever, one capital symptom dominates the scene, and this is black vomit. So far, vulgarly, or in unscientific language, the disease is generally designated by the name vomit, or black vomit. The black matter is frequently vomited in great quantities, the intestine in all of its extension contains this substance, and as demonstrated to-day that in some cases this matter is something more than altered blood, it evidently possesses some significance.

If I was not timid in making my deductions too soon I would say that this matter signifies the whole, but I do not want to anticipate things.

The examination and bacteriological analysis of the matter vomited and what is contained in the intestines have brought under observation the prodigious quantity and the multitude of species of microbes of all forms, and it has not been attended with little labor, the work of isolating these organisms one from the other; as I propose returning to this work after a while I will be brief now.

Experiments on Animals.—I have injected into the stomach of a young guinea-pig, five cubic centimetres of this black liquid substance and the animal died in four minutes, intoxicated by the poison contained in this substance, poison which is secreted by these organisms pullulating in the digestive tube. A large guinea-pig that received the same dose, after becoming very sick, recovered completely the next day. A young guinea-pig that received but one cubic centimetre did not feel its effects.*

I have isolated by a particular method a micro-organism that will develop and in less than twenty-four hours deposit in certain conditions, thick mists and a deposit of black sediment; the walls of the bottles of culture as they develop become blackened, the surface of the glass stoppers are blackened by the excreta of the microbes, which discoloration cannnot be removed by washing with water acidulated with nitric acid. Pure hydrochloric acid does remove and destroy it. An inscription made on vials with a pencil of red aniline located in the incubator, becomes blackened by the emanation of gases from the cultures. For my part I have never before seen a microbe that produced such effect. I have inoculated two guinea-pigs with a few drops obtained from the culture of this organism, and selected the empty gut for the purpose, both of which died in from twelve to sixteen hours with the intestine entirely congested and filled with a bloody, black matter. These organisms are the factors of the black matter contained in the digestive tube. Are they pathogenetic of black vomit? This I will consider in another communication.

Inasmuch as my investigations are as yet incomplete, they lead me however to advance this opinion: that *yellow fever is not a fever* as currently expressed by the word, but that it is a poisoning produced by a special fermentation that takes place solely in the intestine. The fever must be considered nothing more than epiphenomenon, common in the greater number of acute poisonings.

II.—Second Communication to the Academy of Sciences of Havana, February 12, 1888.

In my first communication I made a brief statement of the melanogenic micro-organism that I isolated from contents of intestinal tube in yellow fever. It now remains for me to describe this organism under its aspects morphological and biological in as far as my investigations will permit, up to date.

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* These injections were introduced into the stomach by means of an œsophagus tube.

If in an equal part of sterilized water you dilute dark intestinal matter "in preference to the contents of stomach or black matter vomited," and having left the mixture long enough to deposit, you can introduce a few drops of this clear liquid into balloons for culture containing a one per cent peptonized beef broth *bouillon* and placing them immediately in the incubator at 38° Centigrade you will observe what follows. In from twelve to twenty-four hours the liquid of the cultures has become more opaque, the walls of the balloons are beginning to blacken and are more perceptible the older they are or the longer they have been left in a certain way to the attack of anterior cultures of any kind; in the bottom of the balloon there is a covering more or less thickened, composed of a black matter similar to the one which served in the first place for cultivation, and this can be used for other similar cultures.

As is well understood these cultivations are impure, and contain more or less of all the forms of microbes known. I wont delay in describing the hundred species of the bacilli (rod-like), diplococcus, micrococcus, streptococcus, sarcinas, etc., etc., that I have isolated, cultivated and experimented with, and will at once say that I have proved that the black coloration of the culture balloons and their contents is owing to a bacillus, short, fine, movable and little refractive. In its cultivations this bacillus can like his congeners modify his form and dimensions to a certain limit according to the medium and temperature, so that if cultivated in *bouillon* in an incubator he lengthens and encurves himself like the cholera bacillus, which in this case he resembles perfectly, but in the culture of gelatine or agar-agar it is commonly found short and straight. He can be distinguished perfectly well with a dry objective No. 7, and an ocular 4 of Bézu and Hausser, of Paris. In the dried and colored preparations it suffers certain deformities, it looks shorter and thicker; in some cases where two bacilli are still united end to end they appear like a diplococcus whose forms were slightly elongated. In culture balloons when the cultivations are pure the black matter is not abundant, but if the culture is impure then appears on the bottom of the vessel a deposit more or less abundant.

The bacillus does not color itself, but colors the neighboring bodies. If in a cultivating tube you make a simultaneous plant of this bacillus and of any other microbe whose colonies are white ordinarily, they will become black, whilst the neighboring colonies of the bacillus do not blacken.

The smell of the cultures is perfectly characteristic and identical with the matter of black vomit; this is made more perceptible if the liquid is slightly heated or acidulated a circumstance of its being so found in the stomach. I cannot better characterize this smell or odor than by classifying it as smegmatous.

The bacteria is very ærobic, it does not grow, or at least it does it imperfectly when out of contact with the air; it liquifies gelatine fifteen per cent. on its surface; if the gelatine is not quite solid the bacteria will disseminate under the form of cloudy mists, in its interior.

The cultivations made on plaques with jelly of agar is not so good a medium by which to isolate this organism; the plaques made with gelatine are better, but on account of the high temperature in those countries in which the yellow fever is observed, it is much better to use a process that has been serving me with the best results for many years placing the gelatine in flat watch crystals heated by a flame lamp. I then unite them with porcelain pots of the same size, they serve as a covering for each other. A piece of filter paper saturated with sterilized water located under the crystal serves to make a humid camera.

A much more rapid process to isolate this microbe is the following: In a one per cent. jelly of agar placed in wide tubes on an inclined plane, then charge the point of a platina rod with morbid matter, and then puncture the lower part of the tube with it, then locate these tubes inoculated in this manner in a vertical position in some medium where the temperature will be 25°, C., and in about from ten to fifteen hours there is an effectual beginning at proliferation in all the track made by the platina rod, and also on the surface of the jelly; also a transparent cloud, which extends more or less some distance, appears around the central hilas of proliferation, this cloud contains, at least in its periphery the microbes in question in a state of purity in almost every case. Take now a curved needle and slide it down the wall of a tube that is not infected, then drawing out the needle with precaution, you will have secured on its point a particle from the external part of the cloudy cylinder of which we have been speaking. What is to be done now is to inoculate tubes with solidified gelatine, and in a few hours at a convenient temperature can be seen small and depressed cupulo-like formations so characteristic, and afterwards a liquid disk; the liquifaction then goes on slowly until it reaches the bottom of the tube.

In my preceding communication I said that I had injected this microbe into the empty gut of two guinea-pigs that died in twelve and sixteen hours, and that the intestines contained a blackish sanguineous matter. I have continued these experiments and here are the results obtained.

Not all of the guinea-pigs inoculated in the intestine die. In the first place it is necessary to let them fast the night preceding the operation, giving them food only after they have been inoculated. Those that die can be divided in two categories, 1st, those that seem shocked by inoculation and die in twenty-four hours; 2d, those that do not show any morbid symptom during two days, and who die the third day after an algid and comatose period of a few hours. The temperature drops from 40° normal to less than 30° Centigrade. I have not as yet been able to prove the presence of albumin in the urine, it may be that the animals have died too soon, or it may be that their bladders were empty. The first two had in the intestines a considerable quantity more or less of sanguineous matter, and the second had their stomachs and empty gut full of a dark substance more obscure in the intestine than in the stomach. The contents of the stomach are acid; that of the intestine sub alkaline as in man.

Before inoculating the guinea-pigs I have aspirated from the intestine (using for the purpose a sterilized syringe), a few drops of liquid which I introduced into culture balloons. In twenty-four hours the liquid becomes opalescent, and the bottom of the balloon is covered with a whitish matter. The organisms contained in these balloons, in eight cases in which I have attempted the experiment, do not liquify gelatine. These same guinea-pigs having died, I proceeded with the contents of their intestines the same as with man, and I have planted it in liquid of the same composition: in twenty-four hours the balloons had the same aspect as those which contained cultures from the intestinal tube of the man that died of yellow fever, and the organisms (bacilli) were found in greater numbers in these cultivations, liquifying gelatine in the manner indicated already; then the contents of the intestinal tube of the guinea-pigs inoculated that die behave like those of man in black vomit.

The experiments attempted on other animals like the pigeon, the rabbit and the rat, have not given me any appreciable results.

A dog received on the 1st of February, at 10 A. M., in the empty gut, five drops of cultured liquid. This dog had not fasted, and his normal temperature was 39° Centigrade. The operation was made rapidly without chloroform, and with all antiseptic precautions required. One hour afterward the animal was vomiting abundantly and had many liquid evacuations, his condition prostrate, until night time when his temperature rose to 40° Centigrade. The next night he was better.* After all that has preceded, it becomes of necessity a spontaneous question if I can so express it. This bacillus, is it the microbe of yellow fever ?

Let me recapitulate.

First.—In the disease badly named yellow fever, microbes are not found either in the blood, in the urine, the bile, or the pericardial serum : the viscera do not contain them.

Second.—The intestines contain a quantity more or less of a dark, toxic substance that is not found generally in any other disease.

Third.—When you inoculate this substance in a culture balloon, this liquid darkens, and a matter similar to that of the intestine is precipitated in the bottom of the balloon, and its walls become blackened. Among the microbes isolated from the black matter of the intestinal tube, one only has repeatedly given me the phenomena in conditions as above indicated—it is the bacillus that I have described.

Fourth.—If you inoculate gelatine directly with black matter from the intestine it will liquify in a particular manner. The microbe in question is the only one in the cases observed by me that will liquify gelatine in this manner.

Fifth.—If the intestinal contents of a healthy guinea-pig is planted in *bouillon*, it only suffers the ordinary transformation of putrefaction. In the cases observed by me, these cultures do not liquify gelatine. After having injected into the same guinea-pig a few drops of the bacillus culture, in those cases in which the animal dies, the intestine contains the darkened substance which, planted in gelatine or in peptonized *bouillon*, acts exactly like the morbid matter found in the intestine of man.

Sixth.—The cultures of this organism under the action of heat or of an acid, even spontaneous, exhales an odor perfectly like that vomited by the sick.

Seventh.—Notwithstanding the many investigations, and the study made of cholera, this bacillus has not yet been discovered in the intestine of man.

I have come to the conclusion that at least the great probability is that the bacillus that I have just described is the determined cause of black vomit. Whatever it may be, as expressed in my first communication, that yellow fever is not a fever, but a disease whose pathogenetic germ works solely in the intestine, elaborating a substance which when absorbed produces clinical phenomena that characterize it. The fever of black vomit is very irregular, and at times, when the patient dies, he has been free from fever many days. The observation of such proceedings brings about consequences whose importance cannot be overlooked by any one, an effect resulting, which ought to operate a radical change in the therapeutics of black vomit; and having found the seat of infection to be the intestine, it ought to be treated, as far as possible, like an infected wound, and proceed to evacuate the venom, and the use of intestinal antiseptics in the beginning of the poisoning. In the experiments that I have begun with the bacillus that I have isolated, I have been able to prove that he does not grow in a medium slightly acid, and that it only takes an infinitely small quantity of bichloride hyd. to impede his pullulation. If I had to treat a case of yellow fever, I would not hesitate to evacuate from the intestine the matter therein contained, and at the same time combat the thirst with acid lemonades of any kind, and to administer several centigramms of bichloride in the twenty-four hours, or any other disinfectant that experience indicates. *

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* Contrary to what has been written without proof, in my opinion, it is difficult for animals to die of black vomit. This is not astonishing, don't we know that certain human races are almost completely refractory to it? and that the Caucasian race itself is little subject to it when they become acclimated in those places where yellow fever is endemic.

III.—Third Communication to the Academy of Sciences of Havana
March 11, 1888.

The experiments, as well as the observations made on the bacillus that I have isolated from the dejections and intestinal contents of those attacked by yellow fever, have given me the opportunity to prove a certain number of facts, very interesting indeed, taking for instance the experiments that have been made on the comma-bacillus of Koch, which resembles the one described by me, having spread out the liquid for cultivation in the open air (covered over for protection), until it dried. Dampening at once with a little liquid gelatine, the results of the operation have verified that in less than twenty-four hours the dessication or drying kills the bacillus and impedes its new growth.†

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* I would like to call attention to the fact that according to my observations in two epidemics of cholera, in which I was commissioned by the French government, that a similar treatment might be applied in this disease, whose microbe, like the one isolated by me in yellow fever, presents analogies too clear for me to insist on this point, although interesting.

† When the dry residue or sediment, as I have just said, is placed in solidified gelatine, it undergoes the beginning of liquification, provoked by the disease, enveloped in the cultivation and secreted by the bacillus. I have observed the same thing with the pus from a virulent venerial bubo: if you puncture a tube of gelatine with a platina needle impregnated with this humour, the medium for culture becomes liquified almost totally, without any organisms forming; in the plants that follow, the gelatine does not liquify.

That under a temperature of 60° Centigrade, it only requires ten (10) minutes to sterilize a perfect culture of the bacillus. The facility with which this organism is destroyed by drying at a temperature relatively low can be explained to a certain point by the little tendency there is for the yellow fever to propagate at a distance from the sea shore in tropical countries, and above all, during the dry season.

On the contrary the bacillus propagates vigorously in the salt water charged with organic matters. It continues living in the same liquid, without the addition of nutritive substance. The putrefaction does not seem to destroy it—at least, it does not immediately. I have preserved for nearly four months in an ambient temperature (*) balloons in which the dark matter has been planted. The melanogenic bacillus will continue living in cultures in conjunction with others.

It can be well understood, according to this, why it is that this microbe maintains itself indefinitely in a port like that of Havana for example, in which water the organic materials are not wanting, and where the temperature rarely descends below 20° Centigrade.

Under 20° Centigrade the bacillus does not grow any more—especially when it is in the presence of other microscopic organisms. A sustained cold for an hour at 10° Centigrade does not kill it; but it appears to suffer a profound modification; it becomes granular and liquifies gelatine in a way different from ordinary. Like the one of cholera, this microbe seems, or appears to belong to the class of spirillum. It takes in certain conditions a form that is elongated and tortuous. It does not produce spores, but it appears to form itself only by segmentation. This peculiarity explains its want of resistance. The virulence of the microbe depends in a measure on the length of time it has been isolated from the intestines of man; to-day animals will resist an injection made into the jejunum that made them succumb not long since. After one or two days of sickness they recover completely.

The microscopic examinations of the intestines, of which nothing has been said until now, from the specimens taken from autopsies ten hours after death show me very plainly that the intestinal walls have been penetrated by the microbe. In one case (autopsy November 17th,) I have found almost exclusively curved bacillus, similar to those that I have isolated in other cases. This bacillus is found abundantly in the sub-glandular coat and even in the muscular coat. But in two cases in which the autopsy was made not longer than two hours after death, I could not find in the specimens examined one microbe—not even in the gland of Lieberkühn, neither in the recticular tissue of His; and yet in the intestinal contents procured two hours after death in the autopsy of November 23d, there was, so to speak, a culture almost perfect of the bacillus. The lesions of the intestine are complex, and vary according to the portion of the digestive tube examined. The surface of the mucous membrane when altered makes the study of the sections more difficult, because its consistency is considerably diminished; and the epithelium, when it has not been destroyed during life, has become so much softened, that, by preparatory manipulations it has been partly carried away. I cannot insist in this short note on the histo-pathology of the intestines. I will only mention that the most striking of all is the vascular dilatation and the interstitial hæmorrhages which in some places are very extensive. Sometime after death is when the microbes pullulate the intestine and begin penetrating into this viscera. I hope to complete in a propitious season the investigations that I have placed before you in the three preceding lectures, and above all will keep under view the treatment of yellow fever.

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* In the laboratory where I have made these observations it has rarely lowered beyond 23°; the medium temperature has been approximately 25° Centigrade.

ARTICLE IV.

INVERSION OF THE UTERUS OCCURRING AFTER POSTHUMOUS DELIVERY.*

DR. ISAAC E. TAYLOR.

Mr. President:

It is a recognized and an interesting fact, with which we are all conversant, that the fœtus is cast off from the dead body of the mother after the respiratory movement has ceased, and the complete cessation of the circulating fluid has stopped.

It is this which constitutes posthumous birth.

The rapid cooling of the body after Somatic death, rapidly extinguishes the condition of the vital activity of the tissues.

Singular as the fact is respecting the delivery of the child, it is still more surprising that rupture as well as inversion of the uterus has taken place.

Exceedingly rare as cases of complete and partial inversion of the uterus are, which have been reported, nevertheless the fact exists.

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* Read before the New York Medical Association Oct. 10, 1888.

It is to this singular occurrence of inversion of the uterus, after posthumous delivery that I desire to solicit your attention for a few moments, and to the mechanism appertaining thereto.

I will condense my remarks as much as the nature of the subject will admit at the present time.

To consider the mechanism by and through what sources the inversion is created, we must take a retrospective view of natural labor, bearing in mind also the views and opinions which are entertained by the Profession at the present day as to how the inversion occurs in the living subject.

The mechanism of inversion which was advanced many years ago by Crosse, in his admirable work on inversion of the uterus, but which views were held a long period of time before, have merited the commendation and attention of the Profession. They are engrafted so firmly that they are considered at the present time the only correct and true explanation by which inversion takes place.

It is held that without exception, the fundus of the uterus, directly or laterally, must become indented into the body of the uterus to effect the object, whether that is by traction from within the uterus, or by pressure from without from different causes.

Three important reasons or theories are alleged as the source in posthumous delivery of the child, and inversion of the uterus.

The first theory—Is spasm of the uterus or rigor mortis.

Second—Decomposition of the tissues and fluids in the abdomen, and the evolution of gases.

Third—Contraction of the uterus consequent on the irritability of the muscular structure of the uterus which ensues after death.

Physiology has imparted the information that muscles do not lose their irritability immediately or very soon after the death of the general system, when the circulation ceases without power of renewal, lasting some times for several hours.

Physiology has nevertheless addressed no clear or certain positive information why the muscles of the uterus, which at the time of the death were powerless or inert, should after death in such an extraordinary manner, and with such remarkable energy and force deliver the child, much less turn the uterus inside out.

The commencement of rigidity is not prolonged according to Casper, beyond seven or eight hours, though it has been from twenty to thirty-six hours.

It is seldom absent, and so slight sometimes as scarcely to be noticed.

It may pass off rapidly. The period which elapses before its occurrence is as variable as its duration. Both appear to be dependent on the vital condition of the body at the time of death. When it takes place later it lasts longer, consequent on the general energy of the system at the time of death. The interval between the cessation of the irritability and the accession of the rigidity, is also various. Rigor mortis, Dr. Carpenter informs us, occurs after all the irritability of the muscles has departed, and before the putrefactive change sets in.

The occurrence of the delivery of the child, after the life of the mother has become extinct, is consequently effected by the uterus itself, and this view has been attested by high authority.

The uterus, after the birth of the child and the placenta, has been found as perfectly contracted, and as firm as though after normal labor.

It has seldom been found uncontracted and relaxed, except through certain conditions. In some cases where the placenta has not been cast off, and that organ had to be removed the uterus assumed the same normal state.

The uterus is almost if not the last of the vital organs to undergo decomposition, whether before delivery or after death. It has been ascertained to be as natural in appearance months after delivery as at the time of death, retaining its color, form and consistency of structure.

Rigor mortis, or spasm of the uterus, is considered as one, if not the chief motor, element by some authorities, as accomplishing the delivery of the child.

If we, however, bear in mind the important fact that cadaveric rigidity pervades most generally the whole system, it is not to be presumed that it confines itself, or is concentrated, and isolated on the muscles of the uterus itself, as the vagina and vulva must be equally affected.

Nor can we suppose that the rigor or spasm lasts longer than the passages themselves through which the child has to be extruded.

Second Theory.—The mortuary forces of the gases evolved in the abdomen during the product of the decomposition, depends in the same manner on the nature of the disease, and also on the condition of the system at the time of death.

The time when decomposition begins is believed to be not until after the lapse of some days, and after the departure of the rigor mortis. When decomposition has taken place, all irritability of the muscles of the uterus is gone. The delivery of the child under such circumstances must be consequent on the amount of pressure on the uterus which would necessarily be very great.

On this point we also have not any positive, direct, or certain evidence or experiments which go to show the comparative strength of the muscles when in activity or in a state of repose.

The requisite amount of propelling force is estimated to be from five pounds to forty pounds to accomplish the delivery of the child, as to its size, assisted by the thoracic efforts and the abdominal nisus.

Joulin held it as high as eighty pounds. He considered that the abdominal nisus had very little power. Other authorities deem it as equal in power to the contraction of the womb.

If the views and experiments of Joulin are true and correct in the living subject, without other assistance, how much greater propelling force, from whatever source, would be required to deliver the child after death and to affect an inversion of the uterus.

It certainly would appear to require a greater amount of pressure after the irritability of the uterus has gone, and especially should the rigidity of the maternal passages still exist.

Casper has asserted that it is extremely difficult to break up organic cohesion of dead organs, as dead tissues have more strength than the living.

In easy labor where the child is small, or even of the ordinary weight, and the capacity of the pelvis is ample, and the maternal passages prepared for dilatation and expansion, there being no hinderance in the way, the child is born quickly. In some cases as we all have recognized, the pains being active, the child has been driven into the world, the placenta following by one continuous persistent action, and the uterus well contracted afterwards.

The Third Theory—Contraction of the uterus.

Foederé informs us, that labor takes place spontaneously after the death of the mother, by the expulsive force of the uterus alone, in which the organic action is concentrated after death.

Arbiter, in 1862, gives us the following report:

An hour after a woman had died, undelivered, he extracted a child by version, and took out the placenta, when removed the uterus contracted to the size usual after natural labor and was left well contracted and firm.

Dr. Walter Coles, in 1887, in his paper read before the St. Louis Medical Society, September 24, 1887, on post mortem delivery, gives us the history of a case of inversion of the uterus.

At a recent inquest held in this city upon the body of a young woman far advanced in decomposition, the uterus was found inverted and protruding from the vaginal outlet, while a fœtus of about three months, with its membranes, was discovered in the clothing cut from the corpse.

In a discussion before the Medico-Legal Society of Paris, 1878, Pinard relates the following: A young woman who died in July, 1872, about the fifth month of gestation, when the body was raised to be put in the coffin, thirty-six hours after death, a fœtus fell from between the legs of the corpse.

On examination the uterus was found inverted and protruding from the vaginal outlet with the placenta still adherent.

Dr. Braxton Hicks, of London, stated before the London Obstetrical Society, two years ago, that he had observed two cases, after post mortem delivery, of inversion of the uterus, one of them being partial and the other a complete inversion of the uterus. He does not, however, state whether they were at full time or not. One of the cases occurred an hour previously, and the uterus was found well contracted, and the other was so firmly contracted as to defy all efforts at reduction.

Dr. Bedford, of Sidney, Australia, reports this case. On the 30th, of June, 1864, he exhumed the body of a woman, æt. 37 years, who died on May 27th, undelivered of her seventh child, a question of malpractice having been entertained. On examination the abdomen was found distended, and the body of a male child discovered, the head towards the feet of the mother, and the feet under the uterus which was inverted with the placenta attached.

A transverse rupture of the uterus, about six inches, had taken place above the cervix, the uterus not contracted.

I have selected only these few cases, with the cases of inversion—one at three and the other at five months—as amply sufficient to draw attention to the important fact that contraction appears to be the all-powerful and sole motor element in producing the birth of the child, and not only that, but, in the cases of Hicks, that the contraction and firmness of the uterus remains for some time after, and that the reinversion was impossible by human aid, demonstrating how powerful the force must be requisite to deliver the child during the time the irritability lasts.

Is it possible that the temporary stay of the rigor mortis, or the distension by the accumulation of gases after all irritability has passed, could do this so effectually?

In the recorded cases of inversion of the uterus, in the living subject, the instances that are related appertain to the full term after maternal labor with the placenta delivery—most generally.

In the case at three months the whole ovum had passed. In the case of five months the placenta was attached.

Having premised and referred to the several causes effecting the birth of the child after Somatic death, and given the rare instance of inversion of the uterus, not only at term, but especially at the early months of gestation, as well as the appearance of the uterus after decomposition has occurred, as being similar to that after maternal labor; I will essay the attempt to elucidate the mechanism of the inversion of the uterus after death, from an opposite standpoint to that which is held by the Profession in the living subject, and as corroborating the views I hold as occurring in the living subject in many cases.

Recognizing the anatomical and perfectly established fact, proven by investigation, by high anatomical authorities, for the last twenty-five years, that the cervix uteri and os are composed chiefly of circular constrictive fibres, and non-contractile elastic fibroid tissues, and that the longitudinal muscular fibres posteriorly and anteriorly are located in the body of the uterus solely, and terminate at the juncture of the body and the cervix, and that they have no dominating power over the cervix, in shortening or pulling back the cervix and expanding it, except by propelling forces; that the cervix-uteri and os are governed and controlled in natural labor by the cerebro-spinal system of nerves or the reflex system, and that the body of the uterus and fundus constitutes the great motor or propelling power for delivering the child, is governed and dominated over by the great Sympathetic nerve system. The nature of physiological labor is contraction of the uterus, followed by repose, and that this alternating action continues until the delivery of the child.

That without the contractile fibres existing in the cervix it would be impossible to account for the sudden contraction of the muscles of the cervix-uteri, for without which contraction taking place immediately, or very soon afterwards, there would be, in many cases, a fatal issue. The non-elastic element of the cervix, in its natural character, dilates simply by mechanical expansion and contraction.

In natural labor the cerebro-spinal or reflex system of nerves is held in abeyance where apoplexy, coma, or paraplegia exist, and this is held to afford positive and conclusive proof that the uterus is, in natural labor, altogether independent of the nerve centres.

In posthumous delivery, as the cerebro-spinal system is lost, is dead, the circular contractile fibres have no action, and as the non-contractile fibrous tissues are only amenable to pressure from the mechanism of expansion and dilation by the head of the child, and as there is no impediment in the way while the irritability exists, from one to two or three hours, the child is driven by one steady, persistent and continuous action of the uterus into the world, with the placenta cast off or not; the contraction continuing inversion follows, the lower segment of the uterus with the cervix becoming inverted first; the body is then unfolded, and the fundus escapes or is rolled out, and the uterus is turned inside out, the fundus being the last to be delivered.

The advocates who favor the indentation theory of the fundus uteri first (of which I am also in accord in some cases) as the antecedent cause of inversion of the uterus, whether in the active or passive form, consider that the abdominal nisus and the respiratory act as well as the impulse of the intestine, with in some cases the traction on the cord of the child, produce the inversion.

If this were so in the passive form, could that view be tenable, when the uterus is in active contraction?

It is believed that the force is nearly if not quite as direct and equally efficient as the propelling force requisite in natural labor. Joulin has informed us from his experiment that the thoracic force or power and the abdominal nisus is scarcely equivalent to a few pounds. Klob insists that it is absurd to regard the pressure of the abdominal nisus as the cause of the protruding inwards, in the living subject, of that part of the uterus where the placenta was located, and which part, in consequence of that indentation, was paralyzed.

How, may I ask, could this have occurred in the early cases of the inversion, as related at five and three months after death, or in the unimpregnated uterus in the living subject?

The fundus of the uterus, according to T. Smith and others must be the introcedent body, first to accomplish the act in the active spontaneous form.

Others, that the paralyzed parts to which the placenta was attached falls in, and then that becomes the source of the commencement of inversion.

In regard to pressure, Robert Lee gives us the result of his numerous post mortem investigations; he says: On examining the bodies of women who have died soon after delivery, I never saw the uterus in such a state of relaxation as to render it possible for the intestines, however forcibly driven against the fundus of the uterus, even in vomiting or straining or coughing, to produce the inversion of the uterus.

The uterus has been recognized after post mortem delivery firmly contracted, and it could undergo no relaxation as in natural delivery. When once contracted after the birth of the child, and the placenta cast off, or not, and inversion having taken place the contraction still remains firm and solid, and undergoes no modification or change in its structure, demonstrating that even after inversion it defies the strongest power to reinvert it while the posthumous irritability has not passed away. Now, how is it possible as in the living subject, to believe that a contracted uterus, fundus and body should become the introcedent cause to excite the contraction spoken of after death, and the irritability which is only one to three hours duration, and before rigor mortis or spasm should occur as the means by which the fundus should be indented and driven through the cervix-uteri, and the uterus become inverted? Or, how could we believe at an early period of gestation, that paralysis must exist at the site where the placenta was attached, especially in those cases of three and five months of pregnancy, or in the unimpregnated state in the living subject?

As to the suggestion I advanced previously, in 1872, with regard to the mechanism of inversion of the uterus, in the living subject, and which has been recognized in some instances, I incline to the belief that this investigation into the mechanism in posthumous delivery of the child and inversion of the uterus after death, tends to demonstrate it more clearly, and it ratifies the opinion as expressed that the mechanism is the same in the dead as in the living subject, and which is that the inversion is produced by one continuous persistent contraction of the uterus as there is no repose of the contraction, the child is extruded the placenta following or not; the cervix is unfolded first: then the body and the fundus last. The inversion being from below upwards, instead of from above downwards. With this investigation respecting the inversion of the uterus after Somatic death, I am impressed with the idea that the cases would be found more frequent than is supposed and possibly more than in the living subject. I could not yield assent to the rigor mortis view, which isolates its action on the uterus alone, to effect it, and which is of short duration after the irritability of the uterus has departed, nor that decomposition could have any influence, as the pressure of the gases would not be powerful enough to accomplish the inversion should the child be delivered, nor assert the indentation theory.

Now, "Qui Bono?" I leave these views and investigations with you, and you will please accept the brief I have given you, con it over, and I trust that your decision will not be rendered in accordance with the Scottish law, "Not Proven."

ORIGINAL TRANSLATIONS.

ANTIPYRIN IN OBSTETRICS.

PUERPERAL ECLAMPSIA.

FRENCH TRANSLATION. By CARTER S. COLE, M.D.,
Charity Hospital, N. Y.

Dr. Auvard, in the *Archives de Tocologie des Maladies, des Femmes et des Enfants Nouveau-nés* (November, 1888), draws the following conclusions from a series of experiments with antipyrin in labor:

1st. With those women especially susceptible, the administration of antipyrin during labor seems to give undoubted relief, but for the most part temporary, and this is due either to the peculiar action of the drug, or to the moral and suggestive influence of the hypodermatic injection.

2d. In a majority of cases the action of antipyrin is negative.

3d. And in conclusion without denying the good results that can occasionally be obtained by the assistance of this drug, its beneficial influence in labor pains must be looked upon as very unreliable; and we cannot under any circumstances put it on the same footing as chloral or chloroform (in doses required for obstetrical purposes), the anæsthetic virtues of which are up to the present incontrovertible.

The same author gives the following note on the treatment of puerperal eclampsia. " In a recent work,* after setting forth in brief what was known regarding the nature of this affection, and after having pointed out that the cause of it was not only a change in the renal function but also in all of the eliminatory organs of the system (especially well marked in the eliminatory organs). I pointed out in detail the numerous therapeutic measures adopted for its relief and collected them under the following heads:

1. Skin:
    - Revulsives, i.,
    - Diaphoretics, ii.,
    - Baths, iii.
2. Digestive System:
    - Purgatives, iv.,
    - Emetics, v.
3. Urinary System:
    - Diuretics, vi.,
    - Milk, vii.
4. Respiratory System:
    - Oxygen, viii.
5. Circulatory System:
    - Compression of the Carotids, ix.,
    - Bleeding, x.

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[*] "Treatment of Puerperal Eclampsia," by Dr. Auvard. 1888. 205 pages.

6. Nervous System:
    - Depressants, xi.,
    - Anæsthetics, xii.
7. Genital System:
    - Premature and Artificial Rupture of Membranes, xiii.,
    - Induction of Labor, xiv.,
    - Hastened Delivery, xv.,
    - Instrumental Delivery, xvi.,
    - Cæsarian Section, Post Mortem, xvii.
8. Various Drugs, xviii.
9. Lesser Means, xix.

After this analytical study of the various therapeutic measures employed, and after having discussed their value and the indications for their use, I concluded by a synthetic exposition, intended to demonstrate what should be the preventive, what the causative, and what the subsequent treatment.

A. PREVENTIVE TREATMENT.

Albuminuria, it is said, is the invariable forerunner of eclampsia; it is therefore right to employ prophylactic treatment every time albumen is found in the urine. We know full well the importance of examining the urine of pregnant women in this respect, and the blame attaching to a physician who would disregard this precaution.

The preventive treatment, *par excellence*, consists in an exclusive milk diet, and that it should be instituted either immediately or by degrees. Milk should be kept up, with a few intermissions, if these are necessary, just so long as there is any albumen in the urine. It is therefore, the albumen itself which is our guide in treatment.

If milk diet cannot be borne, or cannot be kept up, we will be compelled to give it up, and treatment thereafter will be uncertain. One might try baths, diaphoretics (pilocarpin, heat), light purgatives (rhubarb, natural purgative waters), inhalations of oxygen, (twenty-five to thirty litres daily), diuretics (tincture of digitalis); in severe or threatening cases, where plethora is well defined, we should not hesitate to take three to five hundred grammes of blood. The induction of labor would be reserved for altogether exceptional cases, but, however, rare such an intervention may be, it cannot be altogether discarded in the prophylactic treatment of eclampsia.

B. CURATIVE TREATMENT.

Eclampsia is upon us, how shall we deal with it? I need not mention further the minor details which have already been discussed, and which the accoucheur would employ as the occasion demanded. The means to be employed can be grouped under six heads, three of primary importance, aud three of secondary importance. To put it differently, there is a large and a small therapeutic tripod.

The major tripod consists of anæsthesia, bleeding, and emptying of the uterus. Of these three especial means, there is one which should pre-eminently occupy a place in the treatment and that is anæsthesia. In a general way we may say that anæsthesia should be applied in every case of eclampsia, unless on account of its mildness there is need of no treatment. It may be controlled by means of chloral and chloroform. We need not hesitate to give chloral in doses of ten, fourteen, or sixteen grammes in twenty-four hours, and, as far as we can do so, by enemata.

℞ Chloral hydrate, - - - - q. s.
Milk, - - - - - - ℥iii.

and add the yolk of one egg.

Chloroform should be given to the point of full anæsthesia. Bleeding would be used in plethoric cases where the convulsions are violent, or where coma accompanies cases of asphyxia; and according to the individual case, 500 to 1,000 grammes. Exceptionally a larger quantity of blood should be drawn.

As to the emptying of the uterus, we should endeavor to do so as promptly as possible, but without recourse to violent measures. If labor has not begun we might wait, if there were no special contraindications, until uterine contractions set in of their own accord: it is exceptional that labor should be induced.

If dilatation has begun, we should avoid hastening the delivery for fear that the dangers threatening might imperil the life of the mother; however, mild measures, likely to hasten dilatation, such as rubber bags, or the gentle insinuation of the fingers and hand should not be left untried in cases of relatively sufficient gravity. The minute that dilatation is complete there is no excuse for not completing the delivery either by forceps or by version. The delivery should be rapid or not as prudence directs. Beside the major therapeutic tripod, we have the minor tripod consisting of *purgatives*, *diuretics* and *diaphoretics*. These three means of secondary importance, in conjunction with the former, will render some service and to neglect them would be culpable. The choice of the *purgative* is a matter of indifference though we should prefer *Eau-de-vie Allemande** in a dose of about twenty grammes.

Digitalis is the best *diuretic* to employ, in the form of the tincture, for example, in doses of fifteen to twenty drops. We might, with the same end in view, incorporate, if the patient's condition permitted it, milk, pepsin water, or a diuretic mineral water.

As a *diaphoretic* we would employ subcutaneous injections of the hydrochlorate of pilocarpine, in doses of one-half to one centigramme. With the same end in view we would have the patient in a well heated room, where she would be, as it were, in a hot air bath.

These are, to recapitulate, the measures to be employed in eclampsia. In addition to the three secondary indications consisting of diaphoretics, diuretics and purgatives, there are three principal ones: emptying the uterus, bleeding and anæsthesia; and of these three principal ones, bleeding and evacuation of the uterus would be reserved for special cases, and then with discretion, whilst anæsthesia should be employed in any case at all serious for it is the queen in the treatment of eclampsia.

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* Practically the same—except for the dose—as the *Extractum Colocynthidis Compositum* of the U. S. P.

C. After-Treatment.

The after-treatment resolves itself into the fulfillment of two indications: On the one hand to guard against the numerous complications that may follow eclampsia (biting the tongue, pulmonary congestion, etc.), and on the other to prevent the return of the trouble; and to do this we must treat the albuminuria. We have seen under the head of preventive treatment the means at our disposal to accomplish this end.

SELECTIONS.

Two Cases of Abdominal Section in Tubercular Peritonitis.* By A. W. Mayo Robson, F. R. C. S., Honorary Surgeon Leeds General Infirmary, and Lecturer on Practical Surgery at the Yorkshire College.

Case I.—E. L——, æt. sixteen years, was admitted to the Infirmary on February 2, 1888, with tubercular salpingitis and acute peritonitis. It was stated that she had been ailing during the previous twelve months, and had suffered from constipation, for which she had taken strong aperients. She had felt languid, had lost flesh, and had suffered from a cough. On December 27, 1887, after three days' constipation, she had severe pain in the abdomen, and felt sick and ill, but did not vomit; from this date she never recovered her strength, which had rapidly failed, especially after she began to vomit on January 10th. A medical man saw her on January 27, 1888, and found the abdomen much distended. There being a wave of fluctuation across the lower part, a trochar was introduced midway between the umbilicus and pubes, and four pints of fluid withdrawn. The fluid was greenish-yellow, specific gravity 1020, highly albuminous and alkaline, and contained granular cells, but no cholesterine. Although the tapping gave relief, she continued to get weaker and thinner, and became irritable and short-tempered. She had not menstruated since December.

On admission the patient looked extremely ill, being apparently in a dying state. Her face was deadly pale, with dark, well-marked rims round the eyes. Pulse 144, hard and wiry. If allowed to sit propped up in bed she was tolerably easy, but on attempting to lie down she had acute abdominal pain. Mucous râles could be felt throughout both lungs, and there was questionable dullness at the apices. The abdomen was much distended and tympanitic, the skin being highly stretched, thin and glistening. On percussing the abdomen there was resonance all over; on palpation, a slight feeling of resistance was felt in the region of the umbilicus. A wave could be obtained from one side of the abdomen to the other, as if distended bowels were floating in fluid. The bowels were confined. A catheter was passed, and two ounces of perfectly normal urine withdrawn. A full consultation of the staff was held, the unanimous feeling being that unless operative measures were speedily adopted early death was inevitable, but that operation could give only a small chance of relief.

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* Reported by Mr. Berkeley G. A. Moynihan, M. B., House Surgeon.

On February 4th abdominal section was performed with full antiseptic precautions. Chloroform having been administered, an incision about two inches in length was made between the umbilicus and pubes. On exposing the peritoneum, it was found to be so adherent to the bowel immediately beneath it that, had it not been for the greatest caution, the gut must inevitably have been opened. On raising the peritoneum with dressing forceps a small entrance was effected, through which, by means of the director, the bowel was gently separated, the incision being then enlarged and the finger introduced. A large quantity (several pints) of yellowish, serous fluid escaped. On introducing two fingers into the peritoneal cavity there was discovered, deep down on the right side of the pelvis, a soft mass of friable, rough material, which, after some separation had been effected, was found to be an enlarged and adherent Fallopian tube, the ovary being felt in its normal position and apparently healthy. A pedicle was made out on the uterine side of the enlarged mass which was ligatured by the Staffordshire knot, the tube being then cut away beyond. The intestinal coils were much matted to one another. The pelvic cavity was irrigated with several pints of salufer lotion (ten grains to the pint). A Bantock's drainage-tube was introduced, the rest of the wound being closed with silk sutures and covered with a dressing of salufer wool; jaconet was applied round the drainage-tube and a sponge placed over its orifice. The mass removed was found to be the Fallopian tube, including the fimbriated extremity. It was much dilated and must have ruptured some time previously, as the edges were everted and thickened. It was lined by a smooth membrane, and was everywhere closely studded with gray granulations of miliary tubercle.

The patient slowly rallied from the operation and was regularly fed with nutrient enemata every four hours. She had very little sickness, and the next day could take Brand's essence and champagne, after which more substantial food was taken. Free drainage occurred through the tube, necessitating several dressings a day for the first two days, morning and evening dressings for the next three days, and then only daily changes. The Bantock tube was replaced at the end of the week by a rubber tube, which was gradually shortened as the wound contracted. The distension of the intestines subsided from the time of the operation. Flatus passed within twenty-four hours, and a natural formed motion was passed on the third day. A catheter was not required. Although the cough continued and the chest symptoms were manifestly advancing, the patient felt herself so much better during the third week as to wish to sit up out of bed, which she was allowed to do. The temperature, which before operation was constantly elevated, varying from 101° to 103°, after operation became normal every morning, rising towards evening. The chest symptoms were apparently little influenced by the relief given to the abdomen, so that her life was only saved for a month.

At the necropsy, the pleuræ showed many miliary tubercles, especially at the left base, where the lung and diaphragm were firmly connected by adhesions. The diaphragm was extensively tuberculous. There was a small amount of fluid at the right base, which had been diagnosed during life. Muco-purulent matter occupied the small bronchi. Both lungs were infiltrated with miliary tubercles, but there was little consolidation. The peritoneum was greatly and universally thickened, and infiltrated with tubercular matter, the intestines being matted by firm adhesions.

Case II.—A. S——, æt. thirty-one years, married, was admitted during April, 1884, for pelvic pain and frequent micturition, which symptoms had existed for some months, rendering her a chronic invalid, although it was only lately that she had been obliged to take to her bed altogether. Her general health was much impaired, and she had lost weight considerably. She suffered from night sweats and an evening rise of temperature The abdomen was distended. Abdominal examination revealed a pelvic swelling on the left side of the uterus, which was diagnosed to be a left pyo-salpinx.

On May 24th abdominal section was performed, but before the general abdominal cavity could be opened it was necessary to separate the great omentum from the pelvic brim, to which it was firmly attached. The small intestines were then found to be closely matted together in the pelvis, covering the whole of the tumor in such a manner as to render it impracticable to detach them, especially as the whole peritoneum was closely studded with miliary tubercle. After sponging out the cavity, the wound was closed with silk sutures. The patient made an uninterrupted recovery, the wound healing by first intention. The temperature, elevated previously to the operation, was normal for some days afterwards, and the patient expressed herself as feeling better than before, although the pelvic abscess had not been evacuated.

Twelve days after the laparotomy, aspiration through the left side of the roof of the vagina was performed, three ounces of extremely fœtid pus being withdrawn. She was so much relieved, both locally and generally, that she was able to return to her home on June 13th, within three weeks of the abdominal section. Her health improved, and she was soon enabled to undertake some of her household duties. When heard of some months afterwards, she was in feeble health and subject to diarrhœa. Although inquiries have been made, no news has been received of her since.

Remarks.—At the present time the treatment of tuberculosis is engaging the attention of the profession to such an extent that the reporting of the two preceding cases will, I trust, need no apology. In the second example, the presence of miliary tubercle studding the whole surface of the peritoneum did not in any way add to the dangers of the abdominal section, which, on the contrary, seemed to be followed by a temporary arrest of the disease and a decided improvement of the patient, who recovered sufficiently to be able to resume her household duties, although when heard of six months afterwards, she was still in feeble health and subject to diarrhœa. In the first case, the acute peritonitis, for which the operation was undertaken, seemed to be the result of a rupture of a cystic tubercular Fallopian tube, the removal of which, together with the irrigation and drainage of the abdominal cavity, undoubtedly prolonged the life of the patient for a month ; and, as the necropsy proved, more could not have been hoped for, as the lungs and other organs were extensively tuberculous. It is interesting to note how the extreme intestinal distension subsided within twenty-four hours of the operation, and that the bowels recovered their tone sufficiently to act naturally within forty-eight hours of being acutely inflamed and distended.

MALARIAL ORCHITIS.

Among the rarer phenomena observed in patients thoroughly saturated with the poison of malaria is a special and interesting form of inflammation of the testicle. The disease is quite a rare one, even in countries where malaria is rife, and no mention is made of it in our English text-books and systems of surgery, or in Curling's well-known work on "Diseases of the Testis." In a recent number of the *Revue de Chirurgie* Dr Charvot has described some cases which have come under his notice among the French soldiers in Tunis, and from them and from other published cases he draws a fairly complete picture of the disease.

The first feature of malarial orchitis, and one that seems to be well-marked, is its occurrence only in those who have suffered severely from ague. The onset of the inflammation may be noticed during an attack of fever, often in the night, and quite apart from any injury, urethral discharge, or other exciting cause of an epididymitis spreading from the urethra. The inflammation is of an acute and severe type. In a few hours the part becomes greatly swollen, and the disease reaches its height in two or three days, and then somewhat slowly and gradually subsides and passes away. In some recorded cases the local inflammatory phenomena have undergone daily exacerbations and remissions in unison with the body temperature, but Dr. Charvot has not observed this in his cases. Both the body of the testicle and the epididymis are involved in the inflammation, and there is effusion into the tunica vaginalis. The skin of the scrotum is not implicated, and is only rarely adherent to the subjacent tissues, although there is inflammatory œdema of the cellular tissue of the scrotum. The pain is usually very severe, and radiates from the testicle up to the groin and round the loins. Under treatment the pain and inflammatory œdema quickly subside, but the absorption of the inflammatory exudation in the testicle takes place much more slowly, and is followed by more or less atrophy of the secreting substance of the gland. The disease is accompanied by malaise, headache, neuralgia, pinched face, and anæmia, all marks of severe malarial poisoning.

One very important point is that it is usually followed by more or less complete atrophy of the testicle. This is exactly similar to the atrophy attending all acute inflammations of the body of the testicle, and depends upon the destructive influence of the inflammatory exudation upon the delicate seminal tubules packed inside the unyielding tunica albuginea. The same tendency to atrophy is seen in traumatic orchitis, and in that which is a part of parotitis; and, indeed, an acute and severe inflammation of the body of the testicle unaccompanied by subsequent atrophy is unknown.

The treatment of this form of orchitis, happily, is not very difficult. A full dose of quinine should be given a few hours before the rise of temperature, and this should be repeated daily until the patient is continuously apyrexial. The beneficent effect of quinine is quickly seen in the fall of the temperature, the abatement of the pain, the lessening of the headache and malaise, and often in the quick subsidence of the scrotal œdema. If its influence is maintained, the swelling of the testicle shrinks, and the gland becomes smaller and softer, with loss of testicular sensibility. No special local treatment is required. The fever which is always associated with malarial orchitis is not symptomatic: it most often precedes, but is by no means in proportion to, the inflammation of the gland, and it yields to treatment by quinine much more quickly than does the orchitis itself. The liability to wasting of the gland renders it important to recognize the nature of this disease as soon as the patient is attacked by it. As a rule, the diagnosis presents no grave difficulties. From gonorrhœal orchitis it is distinguished by the affection of the body of the gland as well as of its epididymis, by the character of the fever, by the history of the patient, and by the very marked influence of quinine given in full doses. It is more closely like the orchitis of mumps; but where there has been no parotid inflammation to assist in the diagnosis, the intermittent or remittent character of the fever, and the failure of the swelling to undergo rapid absorption after the fall of temperature, are sufficient to distinguish it. The effects of a single large dose of quinine are also so well marked in malarial orchitis that in any doubtful case the therapeutic test is of great value. Dr. Charvot has found more difficulty in distinguishing this form of acute tubercular affection; but in the latter the epididymis is markedly nodular, and there is a notable tendency toward suppuration. Although the disease is very little known in England, it is yet one worthy of careful study. Patients saturated with malaria often return home to this country with various manifestations of the disease; and our military surgeons, as well as many private practitioners, may well find themselves called upon to treat this affection when residing or traveling in foreign climes.—*Lancet*, October 20, 1888.

THE VALUE OF INHALATIONS IN THE TREATMENT OF LUNG DISEASE.

In the Section of Medicine, at the annual meeting of the British Medical Association, held in Glasgow August last, Dr. C. Theodore Williams read a long paper with the above title (*British Medical Journal*, September 29, 1888). The methods of inhalation he classifies as follows:

First.—Inhalation of gases, such as oxygen, nitrous oxide, atmospheric air (condensed or rarefied), or vapors of certain medicines volatile at low temperatures, as ether, chloroform, nitrate of amyl and iodide of ethyl.

Second.—Moist, warm inhalations.

Third.—Dry, fuming inhalations.

Fourth.—Atomized sprays.

Fifth.—Respirators containing medicinal agents, by which the air is impregnated previous to respiration.

As to the first class, no doubt can be entertained of its efficiency, and in the case of such gases as nitrous oxide, and such vapors as chloroform and ether, we carry inhalation to great perfection, for we produce the complete physiological effects of the drug; and if other medicinal agents, such as the antiseptics, could be pushed to the same degree and the patient brought thoroughly under their influence, it is probable that our results would be more successful. It would appear, however, that to produce this effect gases or vapors without admixture of watery fluids must be used.

In the second class—moist, warm inhalations—steam or warm, watery vapor is the medium of conveying medicated agents to the lung-passages. The simplest form of inhaler for this is a gallipot, or else a wide-mouthed pint jug, filled with boiling water, into which the medicament is thrown, the patient taking deep inspirations, and conducting the vapor to his mouth by arranging a napkin in the shape of a funnel.

Nevertheless, if moisture is to be the medium for introducing medicinal agents into the air-passages, warm moisture will be more grateful than cold; but the amount of the medicinal agent which reaches the air-passages under these circumstances is, according to Dr. Hassall, very minute, and in many cases the greater proportion remains behind in the inhaler. Some medicines, such as the compound tincture of benzoin, are not volatilized at the boiling point of water, and even carbolic acid is only so to a limited extent.

The dry, fuming inhalations are vapors produced by the burning of certain powders, such as nitre-papers, or by heating substances like iodine on a hot plate, or the smoking of various cigarettes. This is doubtless an effective method of lung medication, as volatilization is certain; and patients seem to inspire such vapors with comparative ease, being doubtless assisted by the process of diffusion of gases.

The fourth class—the hand-ball sprays—are used at a low temperature, and are by no means free from risk, giving rise to occasional hæmoptysis. As a rule, however, they do not penetrate beyond the larynx and larger bronchi, and generally condense into liquid on the fauces and pharynx. The use of the perchloride of iron spray in hæmoptysis is one of the few instances in which cold sprays have proved effective in pulmonary complaints; but it has often occured that a cocaine spray, of say ten per cent. strength, administered sufficiently well to insure reaching the smaller bronchi, should do much to allay the spasm of bronchial asthma. It is of great value in throat and laryngeal affections, though not so effectual as the application to the same parts of a cocaine solution of equal strength with a curved brush.

The fifth class is that of antiseptic respirators containing a few drops of liquid carbolic acid, creosote, thymol, terebene, eucalyptol, or other disinfectant on tow, cotton-wool, or sponge, inserted between two layers of wire gauze or perforated metal plate, and fitting either over the mouth or over the nose and mouth.

The patients are recommended to wear these respirators for half an hour at a time, and, if possible, to sleep in them. The simplest form is Yeo's, which has the advantage of allowing the air free access not only to the nose and mouth, but also to the skin of the parts enclosed.

The use of vapors has proved very useful in the hands of Dr. Williams for the reason that they consist of elements which the lungs are well adapted to absorb, and when absorbed they pass rapidly into circulation, reaching the brain and nervous system. As regards the use of dry, fuming inhalations, Dr. Williams has now almost entirely given up their use; and for the stramonium cigarettes, etc., he now substitutes stramonium and belladonna in tincture, or extract in the ordinary doses as medicine, and claims that he speedily obtains the desired result, and believes that this form of medication is preferable to inhalation.

The second group—that of moist, warm inhalations—has not, on the whole, proved successful in his hands. In acute bronchitis, in laryngitis and croup, he has found the inhalations of steam beneficial; but in the diseases affecting the parenchyma of the lungs, pneumonia, phthisis, and also capiliary bronchitis, they have proved quite useless. Even in acute and chronic bronchitis, where the use of warm medicated vapors seem most indicated to promote epithelial changes and desquamation, even here, he states, he has found the exhibition of expectorants through the stomach far more effective, for the reason that the air-passages are not adapted to receive and absorb large quantities of water, even when part of it reaches them in the form of vapor. And further, in weak patients especially, deep inspiratory efforts are impossible, Dr. Williams concludes his paper with the following practical conclusions:

1. That the success of inhalations as a mode of medication depends principally on the easy convertibility into gas or vapor of such substances as are clearly desirable for the purpose.

2. That, consequently, bodies which are volatilized at ordinary temperatures are more readily absorbed by the lungs than bodies which have to undergo combustion before conversion into gases.

3. That all moist inhalations where steam, watery vapor or spray is the vehicle of medication are but slowly absorbed by the lungs, and enter the circulation in small quantities, and in some cases not at all, the slow rate of pulmonary absorption contrasting strongly with the rapidity of gastric absorption of the same medicines when swallowed, as proved by their detection in the urine.

4. That medicinal inhalations are more useful in diseased conditions of the pharynx, larynx and larger bronchi than in those of the alveoli and lung parenchyma.

5. That in pulmonary disease the antiseptic respirators, while they lessen cough and reduce expectoration, exercise no lasting remedial influence on the diseased conditions of the lungs, and often seriously interfere with the freedom of respiratory effort, which is so desirable in the treatment of such affections.

FLUSHING THE PERITONEUM.

The practice of washing out the peritoneal cavity in abdominal sections where much blood, serum, or other fluid or semifluid matter has been effused, is a most important innovation in modern surgery. Certain well-known and distinguished British specialists are zealous advocates of this system of flushing the peritoneum, which they have practiced with great success. A full stream of water at blood-heat, poured into the peritoneal cavity, detaches clots, etc., which sponges may fail to remove, counteracts the effects of chill caused by the opening of the great serous cavity, and likewise acts as a hæmostatic. The advocates of flushing insist on the necessity of subsequent drainage.

The good results of flushing the peritoneum, according to the testimony of experts, have tempted others to try the practice, not always with similar success. Indeed, a distinguished French surgeon recently read before the Paris Obstetrical Society an important paper on the danger of flushing the peritoneum during abdominal section. In one case the patient was placed in great peril. In a second case death occurred. A patient, whose age is not stated in the report published in the *Journal de Médicine de Paris*, suffered from suppurating oöphoritis on the left side, and double salpingitis. At the operation the appendages could not be removed until intimate adhesions had been broken down. The peritoneum was flushed with "hot distilled water," and during the process profound syncope, with suspension of respiration, took place. Artificial respiration was carried on at first in vain, and a tracheotomy wound was made in the integuments of the neck, when immediately spontaneous inspirations occurred, and the patient thenceforward did well. In the fatal case the patient was a single woman, æt. twenty-eight years. She took chloroform badly, the excited stage was long, and she readily came to; though plenty of chloroform, out of "a new bottle," was administered on a piece of lint. A large cyst had to be shelled out of the broad ligament. As much blood was effused, M. Polaillon determined to flush the peritoneum. He employed distilled water, previously boiled, and containing one part of carbolic acid to a hundred. The water was poured into the pelvic cavity through a wide glass canula, at a temperature of about 99° F. After the flushing had been carried on for about three minutes, respiration became rapid, then grew feeble and ceased; the face became blue. The heart continued to beat regularly. The alarming symptoms began at a quarter past ten o'clock. Artificial respiration was continued until eleven. Then a few feeble inspirations began, and continued for a quarter of an hour; the pupils were then half contracted. The heart beat regularly and quickly. The patient continued unconscious. M. Polaillon immediately closed the abdominal wound, fixing the broad pseudo-pedicle outside. Notwithstanding inhalations of pure oxygen, friction, injections of ether, electricity applied to the level of the attachments of the diaphragm, and other stimulant measures, spontaneous respiration could not be permanently maintained. Once more artificial respiration was tried. Phlebotomy only resulted in the escape of a few drops of very dark blood from the left arm. Gradually the heart's action became more and more feeble, the face grew pale, flatus escaped from the anus, and the pupils dilated. A few minutes before noon the patient was evidently dead. The patient had been thirty-five minutes under chloroform. About one ounce and a half of the anæsthetic was used up, but not nearly that amount could have been actually inhaled.

M. Polaillon observed that this death was not only caused by chloroform; the flushing of the peritoneum must also bear part of the blame. He noted severe syncope in two cases at the moment when he injected very hot water into the abdominal cavity in order to wash coils of intestine and the peritoneum in general. Respiration was maintained in both these cases. In the instance above described at length the coincidence of the flushing with the cessation of respiration was equally marked. He specified that he at first poured about half a gallon of hot carbolized water into the pelvis, and, as the water came out strongly blood-stained to the last, he poured in more water, accidentally hotter than the first supply. The pelvis being full, the water reached the upper part of the abdominal cavity. It was at this moment that respiration ceased. M. Polaillon believed that the stimulus of the hot water touching the diaphragm or the solar plexus caused, by reflex action, the arrest of respiration and syncope. He likened the accident to the effects of a contusion in the epigastric region. This arrest of respiration was liable, as in this case, to remain permanent in a subject under chloroform, which already weakened the respiratory influence of the medulla. He advocated the placing of the lower part of the patient in a lower position than the upper, so as to prevent the water used in flushing from running towards the diaphragm. M. Polaillon also maintained that the water should never be over 99°. Some authorities may think that the presence of carbolic acid increases the danger of flushing. M. Polaillon's case decidedly deserves the serious consideration of all operators, now that the practice of flushing is becoming more and more general.

PELVIC INFLAMMATION AND ABSCESS.

The present status of this subject is an illustration of the fact that knowledge may be acquired, forgotten, confused, re-acquired and placed on an enduring basis. The conflicting theories as to the relative frequency of cellulitis and peritonitis, of phlegmon of the pelvic cellular tissue and ovary, and of collections of pus within the tubes and the cavity of the pelvic peritoneum, seem destined to early and final settlement.

The Ancients appear to have had no definite knowledge of pelvic inflammation. Puzos, in 1743, regarded it as a milky deposit, a metastasis of milk. Doherty and Churchill, in 1843, wrote on chronic inflammation and abscess of the uterine appendages, without defining the tissues involved in the morbid processes. Marchal, a year later, described the existence of abscesses in the sub-peritoneal connective tissue, sub-aponeurotic space, ovary and the cavity of the pelvic peritoneum. Noust, in 1850, insisted that all inflammatory swellings in the pelvis were located in the cellular tissue, and that the peritoneum was not involved, and designated the process by the term peri-uterine phlegmon. Bernutz, in 1857, on the other hand, maintained, on the ground of clinical and *post-mortem* evidence, that the pelvic inflammations coming under his observation occurred at the expense of the pelvic peritoneum, and that the cellular tissue was not to any extent invaded. He acknowledged the existence of phlegmons of the broad ligament, but considered that they should be studied with phlegmons of the iliac fossa, of which they form an interesting variety. Bernutz reports thirteen autopsies in non-puerperal women, in nine of whom one or both tubes contained pus; in two of the cases he found tuberculous deposits, and in four the ovaries were healthy. In a number of the cases the tube was adherent to the ovary, the fimbriated extremity occluded and the fimbriæ destroyed, while adhesions were found binding the displaced organs in various relations.

According to Wylie, this is the accepted teaching to-day, and it has been made plain in the past two or three years by hundreds of operations for the radical cure of a large class of cases which, until recently, were regarded and treated as cases of chronic cellulitis. It may be considered as demonstrated that in the vast majority of cases what is known as pelvic inflammation consists in salpingitis with secondary peritonitis and ovaritis, and that this is especially true in women who have not borne children. In some cases the subjacent connective tissue is more or less involved secondarily; but pelvic cellulitis, pure and simple, is a very rare disease. It occurs most commonly—when it occurs at all—as pointed out by Bernutz, during the puerperium; and it tends to pursue an acute course, ending in resolution or abscess. The inflammation is seldom confined to the cellular tissue, but also involves the endometrium, the mucosa of the tubes and the pelvic peritoneum. It sometimes follows operations on the vagina or cervix uteri; but recent *post-mortem* examinations show that under these conditions the septic inflammation usually spreads through the tubes to the pelvic peritoneum. Cellulitis also occurs as a result of laceration of the cervix, of pelvic hæmatoma, and of ulceration of the bladder and rectum.

If we consider a collection of pus within the cavity of the pelvic peritoneum an abscess, then, as far as he went, Marchal de Calvi was right in his classification of pelvic abscesses; but if by the same license we consider a collection of pus within the lumen of the Fallopian tube an abscess, he omitted the most common variety, namely, pyosalpinx. We are aware that some disciples of Tait, especially in this city, go so far as to deny the existence of phlegmon and abscess of the pelvic cellular tissue, and this in spite of the testimony of reliable and trustworthy men, though they admit that in some cases the distended tubes rupture into the cellular tissue of the broad ligament, thus forming a secondary abscess. Aside from reliable evidence collected in the past, their claims are refuted by the reports of cases in which laparotomy has been done and the tubes found healthy, although abscess of the pelvic cellular tissue was present. Such cases have been reported in this city by both Parish and Longaker.

In the light of our present knowledge it seems plain that in cases of so-called pelvic abscess arising independently of puerperal processes, the pus will be found most frequently in the tubes, less frequently in the ovaries or cavity of the pelvic peritoneum, and in rare instances in the pelvic cellular tissue through leakage of pus into the cavity of the broad ligament. This is also true in cases occurring after labor or abortion, but in these cases cellulitis and abscess are far more likely to complicate the salpingitis and peritonitis, and especially so in the virulently septic, fatal cases. Cellulitis and abscess occur after labor and abortion, with slight secondary peritonitis, corresponding to the pleurisy which complicates pneumonia. Cellulitis and abscess occur at times independently of puerperal processes, as a result of hæmatoma, injuries, ulceration of the bladder and rectum, and some other conditions.—*Med. and Surg. Journal.*

ABSTRACTS.

A SUCCESSFUL VAGINAL HYSTERECTOMY FOR CARCINOMA UTERI. (Wm. H. Wathen, M.D., of Louisville.) Abstract of a paper read before the Southern Surgical and Gynæcological Society at Birmingham, Alabama, December 5, 1888.—I operated in the forenoon of October 9th, at the Norton Infirmary, of Louisville, on Mrs. B. A., æt. thirty-four years, of Irish descent, and a mother of five children. When she consulted me, about the first of August, she was suffering with nearly constant bleeding, the blood being mixed with an offensive matter. Her digestive and assimulative functions were not good, and she was badly nourished; she was losing flesh rapidly, and her general appearance indicated approaching cachexia.

I concluded from the history she gave me of her trouble, that the disease began from twelve to eighteen months before I saw her. Upon examination I found carcinoma of the cervix uteri extending up the endometrium, but not involving the vagina or any of the uterine adnexa. The uterus was in normal position and perfectably movable, and no enlargement of pelvic or other glands could be detected. I did not believe all the disease could be removed except by total extirpation of the uterus, and advised her to have the operation done as soon as I could succeed in temporarily improving her local and general condition. She lost but little more blood, and by the first of October looked and felt much better, and there was hardly any further extension of the cancer.

She was prepared for the operation by being well purged, carefully bathed, and the vagina washed out with two gallons of hot water. The hair was cut from her pubes, and the parts washed well with ether, and a 1-2000 solution of bichloride of mercury. The instruments, sponges, etc., were prepared with all the aseptic care that should govern us in doing successful abdominal surgery. I was assisted in the operation by Drs. H. H. Grant, J. B. Marvin, J. M. Mathews, H. Orendoef, and F. C. Simpson. The water was boiled, and the instruments and sponges were put by the nurse in weak carbolic acidsolution. Chloroform was administered and the operation done after the following fashion. The woman was put in the exaggerated lithotomy position, and the neck of the uterus exposed by a Sim's speculum and retractors, and drawn to the vulva with a heavy volsellum forceps. The vagina was cut away from the cervix at a distance of about one-fourth of an inch from its attachment, and two or three small bleeding arteries secured by catch forceps. Further dissections posteriorly and anteriorly were made with the finger. The pouch of Douglas was first opened and all posterior attachment of the uterus rapidly separated; then the uterus was carefully dissected from the bladder, great caution being observed to prevent wounding this organ orthe ureters. Finally all that held the uterus in position had been divided except the folds of the broad ligaments. The index finger was now hooked well over the left ligament, and it was secured at a distance from the uterus by a catch forceps of my device, which I here show you. The right ligament was clamped in the same way. Both ligaments were then divided with the scissors near the clamps, and the uterus, ovaries and tubes, were pulled away through the vulva.

The uterus was not inverted, and was removed in just twenty minutes. To prevent the possibility of hæmorrhage, all bleeding surfaces or points were caught in catch forceps, so that when the operation was done eight pairs were left in the vagina. She did not lose more than one or two ounces of blood during operation, and none after it. The small forceps were removed in twenty-eight hours, and the two large ones clamping the broad ligaments were removed in fifty-two hours. A small pledget of sublimated cotton was introduced into the vagina to hold the forceps apart and to aid drainage, and the vulva was well covered with absorbent cotton and a T bandage applied. No sutures were used to control hæmorrhage or to unite surfaces, and the vaginal vault was left open. The cotton was removed from the vagina when the small forceps were taken off, and it was subsequently used only as a dressing over the vulva. The discharge of necrosed matter which had been destroyed by the forceps was rather profuse and offensive for a few days, but after one week it had nearly ceased and was not at all offensive in odor. No vaginal washes were used, but the dressing was removed twice daily and the external parts carefully cleansed. She was allowed to lie on her back or sides, as she preferred, and her water was drawn for one week. Her bowels were moved on the sixth day with sulphate of magnesia, and moved every day or every second day afterward. She had beef peptonoids, beef tea and mutton broth for three or four days, then she began to take milk and a little solid food, each day increasing the quantity, and after the eighth day she took house diet. She suffered two days from the presence of the forceps, and for two days more from an irritability of the bladder. She was given during this suffering one-sixth of a grain of morphine two or three times daily. Her pulse after the operation and during the first day was sixty beats per minute, it then ranged from sixty to ninety, seldom getting above seventy-five. Her temperature reached nearly 101° on the second day, probably caused by the local annoyance and pain from the clamps. It then ranged from 98° to 100°. At no time was there any shock or sepsis, and she made an uninterrupted recovery. She was out of bed on the fifteenth day, and left the Infirmary on the nineteenth day.

The vaginal vault had perfectly united at the end of one week. I have examined her several times since she left the Infirmary, and can detect no evidence of any return of the disease. Her general condition and appearance, and all her functions, had improved about twenty-five per cent. at the end of the second week, and she has continued to get better; in fact, she looks and feels perfectly well, and is going out on the street and also is attending to her domestic duties.

I interdicted sexual intercourse for three months, but probably this precaution is not entirely necessary, as there has been neither pain nor tenderness on pressure after the third week in the vagina, or the pelvic or abdominal cavities.

A careful microscopical examination of the specimen removed was made by Mr. Simon Flexner, who reports as follows:

LOUISVILLE, KY., *Nov.* 3, 1888.

My Dear Doctor:

Herewith I beg leave to submit a report on the examination of a specimen handed to me. The specimen consisted of uterus, tubes and ovaries just removed. The uterus had suffered marked change in configuration. The cervix was changed most, and was the seat of evident degenerative change.

The degenerative process could be traced by the unaided eye through the cervix and about one-half the length of the fundus, where the tissue had a more healthy appearance. This limitation of degenerative process was subsequently confirmed by microscopical examination, as will appear. The tubes were apparently in a healthy condition, and the ovaries presented no abnormal features save a few cysts.

On microscopical examination the growth involving the cervix proved to be adeno-carcinoma. As before indicated, the new process extending into the body of the uterus disappeared about its centre. In the mucous membrane of this portion there is considerable hyperplasia of the normally present spindle cells, and foci of round cells are occasionally observable. The glandular structure, however, appeared quite normal. Microscopical examinations of one ovary at the point where it is attached to the tube shows no degenerative change. Some connective tissue proliferation had taken place. Beyond this I could observe no change.

The tubes were not examined microscopically.

Pieces from which sections were made were immediately removed and hardened in alcohol. Very truly,

SIMON FLEXNER.

Asepsis, or perfect surgical cleanliness, should be enforced in every detail of the operation. Weak solutions of disinfectants may be used, but I doubt their efficacy, and strong solutions are positively poisonous. I believe the success of vaginal hysterectomy depends largely upon absolute surgical cleanliness, rapidity in operating and a perfect hæmostasis. When the operation is prolonged, and the woman is kept for one or more hours under the influence of an anæsthetic, or loses much blood, she is in relatively greater danger of death from shock or sepsis. By the use of clamps to control all hæmorrhage, the technique of the operation is so much simplified and improved that the uterus, etc., can be removed in from ten to twenty minutes, and the loss of blood is no longer an important factor. The clamps also afford an excellent means of drainage, and do away with the necessity of a drainage-tube.

But if we follow the technique of Schroeder, Martin and others, and use sutures to control hæmorrhage, and to unite the vaginal and peritoneal surfaces, or to close the vaginal vault, it will require from one to two hours to complete the operation, and the hæmostasis is not so perfect. Results have shown that it is best not to close the vaginal opening; and experience has demonstrated that the supposed dangers resulting from intestinal or omental protrusion in the vagina are mostly imaginary—at least, they are reduced to a minimum.

I believe that the mortality in vaginal hysterectomy can be reduced as low as that in ovariotomy, but I beg to repeat what I have said at another time: "That it is positively criminal for any one to attempt to extirpate a cancerous uterus, or to do pelvic or abdominal surgery, until he learns the anatomy, physiology and pathology of the pelvic and abdominal structures, and knows how to make a correct diagnosis where it is possible to do so. He should also know the general principles and the details of the most approved technique for such operations." Nor should the uterus be removed if there is any evidence of cancerous cachexia, or if, in a careful physical examination, any structure outside of the uterus in the pelvic cavity is found to be infected. A microscopical examination of a part of the removed tissue by an experienced microscopist and pathologist may aid us very much in diagnosticating cancer of the uterus in its incipiency, when we may expect the best immediate and subsequent results from vaginal hysterectomy.

Electrolysis in Urethral Stricture.—The action of electricity in causing absorption of inflammatory products has been largely canvassed during the past few years. Indeed, the number of diseases which have been reported as cured by the use of this agent, and the brilliant successes scored by Apostoli in the treatment of fibroids of the uterus, and by Newman and Belfield in urethral stricture, have been sufficient to lead any conscientious practitioner who credited the reports, to feel it a duty and an imperative one, to pay some attention to the study of electricity as applied to medicine and surgery. So much has been written in current medical literature, that to the ordinary observer it seems almost as though electrolysis has come to be regarded as the new method, sure and reliable, for the treatment of that old enemy, urethral stricture. Latterly, however, a number of careful men have given the results of their observations to various medical journals, and their conclusions have not that roseate hue which glowed in the earlier reports of those who 'brought out' electrolysis in the treatment of urethral stricture. Dr. Keyes, *N. Y. Med. Jour.*, says bluntly that the method is a failure. He states that the ideas concerning the method may be summarized thus: 1. "That any one by following certain rules may use the method successfully. 2. That electricity does no harm to the urethra. 3. That stricture cured by electricity is dissipated by absorption, and the urethra remains permanently open." In eight cases observed by Dr. Keyes, one of which was treated by Dr. Newman himself, and the others by Dr. Keyes, no good results were obtained. The cases were typical ones, so that the question is no longer even an open one. Dr. Keyes closes his article as follows:

"I may state that electrolysis with a very mild current—I prefer to put it at less than two milliamperes and a half—does no harm; in fact, does nothing that I can appreciate, and does not interfere with the benefit to be derived from ordinary dilatation. I believe that a strong current is full of danger, both immediately from irritating effect and ultimately from cicatricial effect; and that employment of the negative pole does not prevent this. My study of the subject and the experience it has brought me, digested with all the impartiality I possess, lead me to state that the allegation that electricity, however employed, is able to remove organic urethral stricture radically, lacks the requirement of demonstration. The confidence of its advocates that it will radically cure organic fibrous stricture is, in my opinion, due either to the combined credulity of the patient and imagination of the surgeon, or to some special but fortuitous act of Providence, upon the co-operation of which in the case of his own patients the general practitioner cannot with any confidence rely."

Dr. Thomas, of Pittsburg, in the *Jour. of the Am. Med. Ass'n*, gives the details of a case he attempted to cure by the new method. He says that after two months' treatment his patient was worse than he had been when the treatment by gradual dilatation was abandoned. He also shows that even according to Dr. Newman's own report, none of his (Dr. Newman's) cases were actually cured. He gives the electricians credit for honesty, but thinks that whatever degree of cure has been effected by them has been accomplished "purely by the dilating effect of their bougies."

TREATMENT OF BRONCHO-PNEUMONIA IN CHILDREN WITH APPLICATION OF ICE.—Dr. Angel Money, Assistant Physician to University College Hospital, London, in a communication to the *Lancet*, says that he has treated many cases of severe broncho-pneumonia in infants and children with applications of ice-bags. The cause of the pneumonia does not, in his experience, influence the employment of the ice-bags. It may be used with much success even in cases of broncho-pneumonia secondary to tracheotomy, but still more favorably in cases occurring in influenza and measles. The smaller the child the more marked, he says, are its effects. In very small infants, under one year of age, the ice-bag may be placed on the head, the hair having been previously thinned and shortened if necessary. The treatment, to be successful, must be carried out with a will, and systematically. As a general rule, the temperature in the rectum affords the best guide to the application of cold, and those acquainted with broncho-pneumonia well know the highly-marked remittent or also of intermittent character of these affections. Ice-bags have the objection that they often give rise to a little wetting of the child; but this has not, in his experience, proved injurious to the patient. Leiter's tubes have been tried, and have some advantages, being especially valuable when an intelligent nurse is in attendance. In severe cases, in which a rapid effect is required, two ice-bags have been placed on the head and one over the chief seat of consolidation in the lungs. With a little management, he says, it is not difficult to keep these in place; certainly not when the neuro-muscular prostration is marked, as it almost always is in severe cases. The chief merits of this treatment, he says, consist in the maintenance of the strength not only of the heart, but also of the respiratory centres and of the nervous and muscular systems. Although otitis media occasionally occurred, yet this has not been more frequent than in cases treated without cold. Albuminuria, he says, is not rendered worse by the cold, nor have any cases of hæmaturia been observed, although Dr. Money has been at some trouble specially to collect and test the urine. The duration of the disease he declares to be, on the whole, shortened. Convalescence is almost invariably rendered more rapid, doubtless because of the conservation of the child's energy.

Not only, he says, does the cold directly quiet the heart and steady the circulation, but the calming of the nervous system also acts indirectly in the same direction. The respiratory centres are similarly beneficially affected. The heat-regulating apparatus manifests more clearly the same benificent action, and the temperature-chart shows a similar harmonious effect. It is curious to observe the almost immediate cooling of the whole surface of the body soon after the application of ice to any part, this cooling effect being best marked when the ice is applied to the head; the hands previously red and hot, become cool and slightly blue. The change is decidedly favorable, notwithstanding the supervention of the signs of feeble circulation in the exposed parts of the skin. Vomiting and diarrhœa, alone or in combination, may require treatment in the cases under consideration; the cold method, he says, does not increase diarrhœa, but certainly tends to stave off vomiting. Stimulants are to be used when indicated, but they are less apt to be necessary under this treatment. There is, he says, a saving of expense all around: the cost of the illness is lessened, and there is less expenditure of reserve strength.—*Canada Lancet.*

CLINICAL RECORDS.

BASAL MENINGITIS. By Landon Carter Gray, M. D., Professor of Nervous and Mental Diseases in the New York Polyclinic.

Gentlemen : I shall read to you the history of a very interesting case of intracranial lesion :

Miss ——, æt. 43 years, has all her life been troubled with weak eyes, her family, being all near-sighted, but about five or six years ago she began to suffer with severe headache, and soon afterward observed that her eyes were failing more than had been the case with any other member of the family. She has never at any time during her life been much of a reader, because of the weakness of her eyes. Last September the eyes became very much worse, so that she sought the advice of a well known oculist. At that time she had temporal hemianopsia of the right eye in a vertical meridian. In the left eye a zone of diminished vision went five to ten degrees farther to the right side. Her sight was in the left=1/8. Since that time the patient has become rapidly worse, so that the right eye, she tells me, is completely blind, whilst the left is almost so. The headaches have become much more severe. When she first came to me, February 4, 1887, she could distinguish the gas flame, and could tell that I had lifted up my arm between her and the light; but she could distinguish nothing more definitely. There was slight external strabismus of the right eye. The left eye was completely blind. The senses of smell, taste, and hearing were distinctly impaired on the left side, whilst the same senses were perfectly normal upon the right. The hand grasp on the right was distinctly weaker than on the left. There was a slight difference in strength between the right and left legs, the right being the weaker. She told me that she was much weaker on the right side after a severe headache, that she would then stagger to the right, and that this weakness would persist for several days after an attack of headache. She also says that at the time of the special weakness of this right side she has dull aching throughout it. The headaches come with great suddenness, without the slightest apparent cause, and are accompanied with explosive vomiting; she may, perhaps, have one after a meal that has been eaten with perfect comfort. These headaches come every week or every few days, lasting several hours. There was absolutely no impairment of the senses of touch, temperature, pain, or of the muscular sense on the right side. The tendon reflexes were normal. She walked perfectly well, had no impairment of memory or of intellect, was a very intelligent woman, and in excellent general condition.

Upon this history, obtained over a year ago, I made the diagnosis of a lesion at the base of the brain. It was not a difficult matter to make a diagnosis of an intra-cranial lesion : the peculiar headache of the so-called cerebral type—*i. e.*, with explosive, seemingly causeless vomiting—and the hemianopsia ; the impairment of the three special senses of taste, smell and hearing, and the motor weakness of the right side after the headaches, constituted ample data upon which to make a perfectly certain diagnosis of an intra-cranial lesion. It seems almost idle to say that a headache from extra-cranial causes would very seldom have this cerebral type ; and, even, if it did, it would not be accompanied by all the sensory and motor impairments that were present in this case. Occasionally, it is true, we meet with sudden vomiting in headaches due to nephritis, or in cases in which the urine may be found to be loaded heavily with uric acid crystals ; but these cases have, of course, no motor or sensory paralyses. Nor was the question of localization of the lesion a difficult one. The cross-paralysis—*i. e.*, the paralysis of hearing, taste, and smell on the left side, and the motor paresis upon the right side—showed that the lesion must be at the base of the brain, implicating the nerves of smell, hearing and taste on the left side and the crura cerebri on the same side. As you know, of course, the three nerves of smell, hearing, and taste would be distributed to their respective sense organs upon the same side, whilst the fibres in the crura cerebri would pass over to the opposite side when they had reached the region of decussation in the cord.

But there was, you will remember, external strabismus of the right eye, which means that there was paralysis of certain fibres of the right third nerve, or motor oculi ; so that the lesion must have extended to the right side of the base of the brain, although it was mainly located upon the left. The nature of the lesion was not so easily determined. We should have to select, as the most probable causes, either intra-cranial syphilis, a tumor, or meningitis either of idiopathic, traumatic, or middle or internal ear origin. Intra-cranial syphilis was promptly excluded for several combined reasons : 1. The patient was an old maid of irreproachable life and habits. 2. Even admitting that life and habits count for nothing, or that the patient might have been inoculated through some buccal lesion, or in some other accidental way, the symptoms did not indicate any intra-cranial specific infection. As I have had occasion to demonstrate, intra-cranial syphilis has generally very well-marked symptoms of its own, consisting of a headache which has some quasi periodicity, and is often nocturnal ; an obstinate insomnia going hand in hand with the headache ; a distinct mental irritability accompanying the headache and the insomnia ; and, finally, a remarkable cessation of the headache when a paralysis makes its appearance. As none of these symptoms were present in our patient, intra-cranial syphilis could be very certainly excluded.

The diagnosis, therefore, lay between meningitis of idiopathic, traumatic, or of middle or internal ear origin, or a tumor. There was absolutely no history of any trauma, and the most careful examination of the ear disclosed no other disease than that of the nervous apparatus on the left side, which has been described ; nor was there any history of any ear trouble in the past. The diagnosis, therefore, still further narrowed itself down to a meningitis of idiopathic origin or a tumor. The neuro-retinitis was, of course, of no diagnostic use, because it might have been produced by either intra-cranial syphilis, tumor, or meningitis: and although there are differences in the early stages in the neuro-retinitis of these three different forms of intra-cranial trouble, no differences were apparent at the stage when our patient first came under observation. The space over which the lesion extends is a matter of considerable importance in the differential diagnosis. In this case, for instance, as you can see by any anatomical plate of the base of the brain, the lesion extends from the olfactory nerves backward to the crura cerebri, and still further back to the auditory and glosso-pharyngeal nerves on the left, and then it also effects the third nerve upon the right side. A meningitis, especially of the pia mater, would be much more likely than a tumor to cover such an extended area in so fragmentary a manner. A neoplasm, too, would have been much more likely to have caused more destruction and to have given rise to a large amount of mental hebetude if it had existed for so long a time and had spread over so wide an area.

A diagnosis was made of a meningitis, probably of the pia mater—a so-called lepto-meningitis—of the base of the brain. The prognosis was regarded as very serious; indeed, the patient's friends were told that, in all probability, death was merely a question of time. The patient was treated simply by means of the iodide of potash, given in increasing doses until forty grains were given three times a day; at times the inunction of mercurial ointment was ordered.

I lost sight of the patient until to-day (April 15), which is about one year after her first visit to me, and six or seven years after the beginning of her cerebral symptoms. Now let us see what difference in symptoms there is.

She cannot see this gas flame, but she can see me between her and the window. Her sight is, therefore, slightly worse than it was a year ago. Let us test her sense of smell with the oil of thyme. As you know, a distinction must be made between the pungent odors, such as aromatic spirits of ammonia, which are perceived by the sensory filaments of the trigeminus in the nostril, and the pure odors, of which perception is gained through the olfactory nerve. Tested with this oil of thyme, therefore, we find that the sense of smell is now perfectly equal on the two sides, so that the impairment of smell on the left side has entirely disappeared.

We usually test the sense of taste by means of bitters, acids and salts, using quinine as the type of the bitters, vinegar as the type of the acids, and common table salt as the type of the salts. Then again, it must be remembered that the nerve of taste in the anterior portion of the tongue is the chorda tympani, whilst in the posterior portion of the tongue it is the glosso-pharyngeal, so that these anterior and posterior regions must each be examined.

The testing of taste is a very delicate matter, and often unsatisfactory with these tests. The best way is to have a little rod or match, with a small piece of absorbent cotton on the end. Dipping this into the test fluids, a drop should be placed carefully first on one side of the median line and then upon the other of the part of the tongue to be examined. Before doing this, however, the patient must be instructed to protrude the tongue, and to indicate when he tastes anything by raising the hand; for if he attempts to tell his sensation by speech, in goes the tongue, and the testing fluid is smeared all over the buccal cavity and the other portions of the tongue.

But the best method of examination of the sense of taste is by the galvanic current. Only a few cells of any ordinary battery are needed, and the ends of the wires should be armed with long metal points. The strength of the current should first be tested upon your own tongue, so as to obtain only enough to give a savor, and not enough to burn the tongue. These two metal points should be placed half an inch apart upon the portion of the tongue to be tested, and the patient instructed as before, to indicate the presence of the sensation by uplifting the hand. Tested by all of these methods, we find that the sense of taste in our patient is still slightly impaired in the left anterior portion of the tongue, but that it is perfect in the left posterior portion; whereas it was entirely lost, both anteriorly and posteriorly, a year ago.

The strength of the hands is usually tested by means of the so-called dynamometer, with which all are familiar. But the neurologist comes to have a *manus erudita*, akin to the *tactus eruditus* of the gynæcologist. Any one can attain to considerable skill in the appreciation of strength in a hand grasp when the matter has been studied through many years and in a long series of patients. I think I can tell the difference between the strength of hands as well with my hand as with a dynamometer. Tested by the hand and by the dynamometer, our patient is found to be equally strong on the two sides, so that the weakness of a year ago has disappeared.

Testing the hearing by the familiar methods of the watch, the voice and the tuning-fork, it is found to be unimpaired on the left side; whereas a year ago she could not hear the ticking of a watch beyond eight inches, and could not distinguish low, articulate sounds unless the speaker spoke directly into the ear.

But the crowning triumph of the treatment is shown in the condition of the headaches, for she tells me that they now never last more than five minutes; so that I almost think they are now no more than neuralgic twinges, inasmuch as they are never accompanied by either emesis or nausea.

This is an extremely interesting illustration of the chronicity of certain intra-cranial lesions. Whether the improvement is due to the inherent tendency to recovery, or to the curative effects of treatment, who can tell? These cases do certainly seem to improve at times under medicines and special forms of treatment, and occasionally with such promptitude as to render it positive that the medication is to be credited with it. These curative agents are the iodides, mercury (preferably by inunction), cerebral galvanization, and occasional doses of quinine and bromide of potash. The iodides should be given in doses as high as twenty or thirty grains three times daily; the mercury should be rubbed into the armpits or into the soft flexor surfaces of the limbs. In the galvanization of the cerebrum large electrodes, well moistened with hot water, should be used, from three to five milliamperes of electricity being employed. Five grains of sulphate of quinine and thirty grains of bromide of potash should be given at bedtime every two or three weeks.

CANNED VEGETABLES AND LEAD POISONING. By Fallon Percy Wightwick, M.B. Dur., D.P.H., College of Physicians and Surgeons of England.

Three cases have recently come under my observation which again point to the desirability of the medical profession offering an earnest veto against the preservation of articles of diet in tins. So long ago as 1881 *The Lancet* asked the question, "Why not substitute bottles for tins?" And still the question may well be asked. It is strange that, although cases of lead poisoning from tinned vegetables have been reported by French and other foreign physicians, some leading English authorities appear to dispute the fact.* The presence of tin and lead, however, has been often demonstrated, notably by M. Gautier and Otto Hehner, but whether in sufficient quantities to cause alarm the following cases will show:

E. C——, æt. forty-two years, account-book binder; married. Father died at sixty-four; mother still living and in good health. He always enjoyed good health until ten months ago. Up to that time his work had been a pleasure to him, and he was always bright and energetic, so that he was appointed foreman. Now everything became "a misery to him." He felt languid and incapable of energy. He turned against his food, and complained of continual headache and obstinate constipation. His wife and fellow-workmen all noticed how white and miserable he looked, and told him his liver was out of order. He informed me he lost several friends during this time, as he stayed at home rather than visit, and that his temper became very irritable, both to his children and the men he was over. These insidious symptoms were steadily increasing until the beginning of last July, when he suddenly developed an attack of gout, which confined him to bed for four days. After this attack he had symptoms of colic with increasing constipation. The present attack commenced on September 24th with very severe pain in the abdomen, especially referred to the umbilicus. His face was pale, with an anxious expression, and there was cold perspiration on the forehead: bowels constipated. The urine contained a trace of albumen; specific gravity 1010. The gums presented a well-marked blue line. There was no paralysis of the extensors. Dr. Sidney Coupland kindly saw the case in consultation with me, and agreed that it was an undoubted case of lead poisoning. We were at some loss at first to account for the entry of lead into the system. The man uses no lead at his work, and none of his fellow workmen have suffered. He lives with his wife and seven children, all of whom are strong and healthy, and he is in the habit of eating his food at home with them. He then informed me that he was accustomed to eat large quantities of tinned tomatoes, but that none of his family liked them or would eat them. For about three years he has been in the habit of eating tinned tomatoes, usually two tins each week. He told me that there would have been a great "row" if he had come home to his Saturday dinner and not found his tomatoes ready for him. He preferred the tinned to fresh tomatoes, and he always ate the same kind. In order that there should be no error, I handed a sample of the tinned tomatoes to Mr. William Foster, lecturer on chemistry at the Middlesex Hospital, who kindly made an elaborate analysis of the contents of the tin. He states that the stannic salts expressed as the oxide are present to the extent of 0·987 gr. per pound of preserved vegetable. The lead salt, weighed in the form of chloride, amounted to 0·339 gr. per pound of sample, with a slight trace of bismuth. Thus, practically, this man may have taken ⅔ gr. to 1 ⅓ gr. of lead salt each week for two or three years.

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* In the Annual of Universal Medical Sciences, edited by Sajous (1888) the following sentence occurs: "Dr. Attfield has stated that the public have not the faintest cause for alarm respecting the occurrence of tin, lead, or other metals in canned goods." I have been unable to verify this citation.

The next two cases are those of mother and son, living and taking meals together. For about three years they have been in the habit of eating large quantities of tinned tomatoes, but not so regularly as the first case. The family history is good, and there is no history of gout.

W. T——, æt. forty years; single; vellum binder. Always enjoyed good health till the last eighteen months, since which time he has frequently complained of severe colic and constipation, for which he has sought medical advice. The face is now pale, and he complains of a sensation of numbness in the hands, with frequent "pins and needles." There is a blue line at the margin of the gums. The urine is normal, tongue rather coated, and the appetite bad.

E. T——, æt. sixty years, mother of the above, always enjoyed good health till about two years back, when she had an attack of gout. Since then she has often complained of colicky pains and constipation. In this case there is no blue line to aid the diagnosis, as she is edentulous. From the general malaise and occasional colic and gout, I think there is little doubt that the lead is affecting her constitution.

According to Dr. Hehner,* the quantity of tin present in canned vegetables may be sufficient to cause symptoms of chronic poisoning. These symptoms are, however, very indefinite, and, if ever present, have not led to any distinct recognition on the part of the medical profession. The cases above recorded, on the other hand, present well-marked and recognizable symptoms of chronic lead poisoning.

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* *The Lancet*, Oct. 1, 1881.

Common Uterine Troubles.

By Elias Wildman, M.D., P. H. G., Yardley, Pa.

Mrs. B—— called to see me suffering with a severe dragging pain in lumbo sacral region, with bearing down pains at times, nausea and distress after eating, irritable heart, feels weak and unsteady in limbs. She would often place her hands on the wall of room, as if to support and steady herself while walking across the room. Urine passed in small quantities with pain (often very acute). Bowels irregular, appetite variable but generally poor, pain on top of head, also a very hot feeling there, she often placed on cold cloths so as to relieve this.

She was very nervous, peevish, etc. I placed her on caulocorea, beginning with ʒii doses four times a day. After using it for one week, she felt much better; a few days after this she attempted to do a large washing (feeling so much stronger). This, of course, placed her back to where she was at the beginning. She became discouraged; I then convinced her that she had brought on the relapse by disobedience to my orders. I then had her to go to her bed and increased dose of caulocorea, in a short time the symptoms ameliorated and I kept her in bed quietly under this treatment for a week when she was able to go about the house feeling as she termed it "good."

Case II. Miss J. W——, æt. 35 years, for some time has been troubled with weak back, depression of spirits, pain in urinating, a continued leucorrhœa, which excoriated the external parts causing pruritus, this she said had been so for years. The odor was very offensive and could be easily recognized if she remained in the room for a short time; her bowels were irregular, sleep not refreshing, appetite poor, skin looked dry and dingy in color, headache (occipital). She is a nurse and often loses much rest while attending some cases. I placed her on caulocorea ʒii four times daily. It being indicated as uterine tonic, also for nervous system. She is gaining rapidly, feeling much better, the offensive odor of leucorrhœa disappeared, appetite improved, and gaining in bodily weight. I anticipate a thorough cure in this case by continuing caulocorea another week or so. In this case I ordered injection, warm water and potass per mangan.

Case III. Mrs. D——, æt. 43 years, stated she was suffering from irregular menstruation, and also at the turning point in her genital functions. The menstrual discharge which would come suddenly, then cease as quickly at times, it would gush from her and flowing down the limbs causing her to become very much alarmed. The whole nervous system was out of order; head dizzy, pains in back and also in ovarian region; weakness in limbs, at times was afraid to attempt walking, she had hysterical attacks followed by great mental depression, trembling, urine pale and flowing freely. Heart weak and irregular. She feared organic heart heart or uterine disease and thought she would surely die.

I placed her under solution potass brom. and sodii brom. to allay nervous symptoms, then as a uterine and general systemic tonic. I gave her caulocorea ʒii four times daily. She has made a complete recovery and is in good spirits; is able to attend to light housework. I shall continue to use caulocorea in this case whenever I see any indications of uterine irritation which by reflex nervous action disarranges the whole system.

It is often much annoyance to the physician when women will not obey their advice. They are so apt (when feeling better) to lift a scuttle of coal, a bucket or dishpan of water or tea kettle, etc., thinking it will do no harm; and after finding it does do harm, they endeavor (feeling guilty) to evade all questions when asked (by their attending physician) relative to such an action.

When I meet such people I always insist on their going to bed and keep them there till they have sufficiently improved to attend to their necessary duties.

This preparation of caulocorea I have successfully used for several years and find it to act very favorably in cases of prostatorrhœa, also to relieve the symptoms in old men suffering from prostratic hypertrophy. In the young woman who is nervous and hysterical it will also give good results.

PROCEEDINGS OF SOCIETIES.

Harveian Society.

NON-STRANGULATED HERNIA.

A meeting of this Society was held on November 15th, the President, Mr. Sedgwick, in the chair.

Mr. Mitchell Banks read a paper in which he divided non-strangulated hernia into two groups, (1) moderate-sized herniæ, and (2) very large and enormous herniæ. This has been done because they are by no means on the same footing either as regards danger to life from the operation or liability to recurrence of the rupture. In the statistics which he gave the terms were used in the following manner: By "quite sound" is meant that the rupture has never come down since the operation, that there is nothing in the way of a swelling to be felt or seen, and that there is no impulse on coughing. By "partial success" is meant that the rupture has slightly returned, or threatens to return if unsupported, but that, with the aid of a truss, the patient is in safety and comfort. In many of these cases no truss at all would keep the bowel up before operation, while after it, support could be effectually given. In every instance the patients placed in this category declared that they were in a distinctly better position after the operation than before it. By "complete failure" is meant that the rupture is as large and troublesome as before the operation. Among the fifty-nine moderate-sized non-strangulated herniæ two deaths are recorded. One was distinctly due to the operation. The other was doubtful, as the wound was all but healed, and there was no peritonitis or other lesion relating to the wound found after death. Of the sixteen very large and enormous herniæ four cases proved fatal. Septicæmia killed two patients, and unsuspected abscess, bursting into the peritoneal cavity after the patient was walking about and deemed sound, proved fatal in another, while in one case the operation could not be completed. Of the twenty-two cases of strangulated inguinal hernia one, an old man of seventy-seven, died from septicæmia and bronchitis. Of the nineteen cases of strangulated femoral hernia two died; one never recovered from the collapsed state in which she arrived at the infirmary, and another was moribund when admitted. The statistics of permanence of cure showed that, of the one hundred cases of moderate-sized non-strangulated and strangulated herniæ combined, it has been possible to trace for very considerable periods seventy-seven. Of these, forty-eight remain quite sound, seventeen are partial successes, and twelve are complete failures. Of the sixteen cases of very large and enormous herniæ, it has been possible to follow up ten. Of these five remain practically sound (though all requiring some support to prevent return), three are partial successes, and two are complete failures.—Mr. Bryant's experience of those cases in which the sac was removed was that they succeeded best. After kelotomy the operation could not be considered completed until the sac had been removed. Operations in children were to be avoided, except where a truss could not be worn. Opening the sac almost quadrupled the risk. In adult life operation was unadvisable when a truss could be worn. Large herniæ ought to be left alone; he had occasionally been obliged to operate upon them, but a truss must be worn afterwards—Mr. Kendall Franks agreed that an operation was necessary in adults who could not wear a truss; also in adults who were athletes. A truss was a great detriment. He always, in operating, sutured the neck of the sac and the internal ring. The operation of twisting the neck of the sac could not be applied in cases where the cord was adherent to the sac. Strict antisepsis was essential to success, and good results were obtained either with silk or silver wire. His bias was in favor of operation. In forty cases he had had four returns. Mr. Edmund Owen was afraid that Mr. Banks would think that the discussion wandered from the actual subject of his paper—namely, the permanency of the favorable result after operation, and, for his own part, he also was unable to speak definitely of results. He could only say that he was satisfied with the result of his operations up to the present. He had operated upon a good many children, but he entirely agreed with Mr. Banks that children should not be operated on unless the hernia was absolutely beyond the control of a truss; for it was an undisputed fact that, with a fair chance, children did "grow out of" their inguinal weakness. The cases which he preferred for operation were those of adults whose inguinal herniæ were associated with an atrophied or an undescended testis. In such cases the surgeon should remove the useless gland without compunction, and, having ligatured and pushed up the cord, should completely occlude with sutures the inguinal canal. The objection against the removal of the undeveloped testis was purely sentimental, for the gland was, almost for certain, of no physiological value. He did not believe in the surgeon being able to recognize, during the operation, the "internal abdominal ring" and the "conjoined tendon;" at any rate, though he knew them in the dissecting room he ignored them in the hospital. He thought that it mattered little in the permanency of cure whether the surgeon used silver, gut, or silk, for closing the canal; but he would ask Mr. Banks how he dealt with the sac of that variety of hernia which descended with the tunica vaginalis. He (Mr. Owen) was satisfied to tie the funicular process high up, flush with the peritoneal wall, so as to leave no depression to invite the subsequent descent of the bowel; he then divided the process below the ligature and removed an inch or so of the testicular part of it. He did not believe in the desirability of fashioning and suturing an artificial tunica vaginalis, all that might be left to nature. The point on which he specially desired to join issue with the author of the paper was as regards the subsequent wearing of a truss. If the neck of the sac was obliterated and the inguinal canal thoroughly closed, no bowel should descend, and the truss therefore was unnecessary. He found the use of a truss necessary after every operation, for he had a strong opinion that the constant pressure of the pad went a long way towards promoting the absorption of the plastic material which was thrown out in the neighborhood of the ligature and sutures, and the definite organization of which had a considerable influence in establishing the permanency of the cure. In conclusion, he ventured to congratulate Mr. Banks upon the straightforward manner in which he had reported his cases and results, favorable and unfavorable, and upon the fairness with which he had laid his conclusions before the meeting. Mr. Gage also spoke, and said it was necessary to wait some time before publishing results. Mr. Banks' statistics were encouraging. Mr. Barker could trace cases which had remained well four or five years, and thought this too short a time to give proper information. A speedy return had taken place in four of the forty or fifty cases upon which he had operated. The risks of this operation had been reduced to a vanishing point. In his reply, Mr. Banks said that removal of the sac was best because of its simplicity. He was himself inclined to operate upon those who could wear a truss, but in any case removal of the sac was essential, and repaired the irregularity of the peritoneum. He practiced stitching of the rings, but it was of less importance. Umbilical herniæ contained so much adherent omentum and bowel that they were seldom suitable for operation.

LEICESTER MEDICAL SOCIETY.

President's Address.—At the meeting on November 2d, Dr. Cooper, the President, delivered his address. He said he wished to make a few remarks on the subject of Rheumatic Fever. During the experience of eighteen years at the Leicester Infirmary he had seen about 600 cases of this disease, and had had the advantage of comparing the alkaline treatment with that by the salicylates. After some remarks on the various theories as to the etiology of the disease that have been propounded, he expressed his belief that it would ultimately be found to be due to a micro-organism. He considered that acute rheumatism was not due to the same causes as chronic rheumatism. With regard to its incidence, he thought males more liable than females, in the proportion of three to one; that it was most common between the ages of twenty and thirty, and not so common in children or in persons over thirty; and that winter and spring were the seasons in which it was most prevalent. The mortality of the disease in his experience, including only cases which proved fatal at the time of attack and excluding those due to sequelæ, was about one per cent. He then referred to diagnosis, and went on to give a *résumé* of the chief symptoms of a typical case. He considered the knee to be the joint most frequently affected. About seventy-five per cent. of his cases had done well, by which he meant that they had lost all acute symptoms in about fourteen days from admission. He gave a word of warning with regard to the time at which a patient might be considered convalescent, saying that if the pulse was at all full, he did not allow him to get up, as a relapse in such a case was very likely to occur. The complications were then noticed. Endocarditis, he thought, occurred in from twenty to thirty per cent. of all cases, and considered that if a patient had escaped this complication in his first attack he was not likely to be troubled by it in subsequent ones. The mitral valve was attacked three times more frequently than the aortic. He had only had one case of hyperpyrexia. With regard to treatment, he advised fifteen grains of salicylic acid and fifteen grains of bicarbonate of potassium every three hours, which he decreased to three times a day as the symptoms abated. He thought the general adoption of treatment by salicylates had reduced the average duration of the disease from fourteen to ten days. The diet he advised in the acute stage was milk, and he only gave stimulants in cases where heart complications were present.

The Surgery of the Parotid Gland.—Mr. Bond gave notes of two cases in which sarcomata has been successfully removed from the parotid. The first case was that of a man æt. sixty-eight years, on whom an operation had been performed for a tumor of the parotid four years previously; this had recurred, and at the time of the second operation the growth had implicated the skin, leading to ulceration and hæmorrhage. The whole growth, with the parotid gland, was removed by Mr. Bond on June 10, 1888, the external carotid, internal maxillary, facial, and temporal arteries being doubly ligatured and portions excised. Stenson's duct, which was implicated, was removed, together with the facial nerve. The growth proved to be a myxo-sarcoma, and a specimen was shown under the microscope. The patient is now alive and well, there has been no recurrence, and the facial paralysis although persistent, does not lead to any great inconvenience, there being no ulceration of cornea or accumulation of food in the cheek. The second case was that of a man æt. seventy years, in whom a similar but smaller growth was removed, together with a portion of healthy parotid tissue. Convalescence was retarded by an attack of acute parotitis, the man ultimately making a good recovery. There was no recurrence seven months later. Mr. Bond considered that the growths in these cases formed a class intermediate in malignancy between the benign cartilaginous growths or so-called "parotid tumors" on the one hand, and the malignant round and oval-celled sarcomata on the other. They were characterized by having an investment of fibrous tissue, and by containing myxoid tissue with areas of oval-celled growth.

Facial Paralysis from Disease of Temporal Bone.—Dr. Bennett showed a boy who had had caries of the bony meatus and complete facial paralysis. There was a sinuous opening below the auricle and extending to the external auditory canal, which was blocked by granulations. The mastoid process was trephined but found healthy, necrosed bone was found in the bony meatus. After the continued use of cotton-wool plugs on small pieces of wire, inserted daily, the granulations disappeared completely. The paralysis had nearly disappeared. Both membranes were destroyed and the inner ear on each side was much affected by carious ulceration.

Malignant Disease of Stomach and Liver.—Dr. Pope showed specimens from a case of the above. The liver disease was secondary to that in the stomach. The patient's (a lunatic) first symptoms were melæna and hæmatemesis. These got well, but were followed by ascites in a few months. The disease in the stomach was limited to the lesser curvature and formed a mass adherent to neighboring organs. The secondary deposits in the liver, which were very numerous and of all sizes, from a pin's head to that of a small orange, showed the appearance of medullary cancer on microscopical examination. A section, showing the cancer cells invading the healthy liver substance, was exhibited.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

A meeting of the above Society was held on Friday, December 7th, Dr. Handford, President, in the chair.

Mr. Evan Powell read a paper on Two Fatal Cases of Acute Chorea with Insanity. The first was that of a young man, æt. nineteen years, whose father died of phthisis and mother had acute rheumatism when young. The patient had suffered from some rheumatic symptoms and had been subject to mental anxiety. The choreic movements began in the left arm, then spread to the left side, and on the chorea becoming general his mind became affected; he got maniacal, and developed delusions and hallucinations of taste, sight and hearing. On admission to asylum, he was suffering from acute choreic mania, the spasmodic movements being so strong that he was unable to stand. His heart's action was very rapid (170 to the minute), and there was a loud systolic apex bruit. The temperature was normal. During the first three or four days he continued acutely maniacal, and his chorea only slightly abated. Some rest was, however, each night procured by chloral. The movements entirely ceased during sleep. For the next ten days he made rapid progress towards recovery, his mind becoming calm and his movements almost disappearing, whilst he put on flesh at a very rapid rate, gaining one pound and a quarter a day for twelve days. At the end of this period he relapsed, all his symptoms returning in an acute form. He died from exhaustion five days later. During his lucid interval he remembered all that had taken place throughout his attack. Post mortem, his brain was found in a state of general hyperæmia, with some effusion of lymph in the arachnoid on the motor areas. There were numerous vegetations on the mitral valves, the edges of which were thickened. The lungs were collapsed, and the spinal cord normal to the naked eye. The second case was that of a single woman, æt. twenty years. She had a good family history, there being no taint of rheumatism, heart disease, or nerve affection. Six years before her admission into the asylum her catamenia did not appear at the proper time, and she became much distressed about this. She placed herself under treatment, and in about three weeks later she had a sort of hysterical fit; four days afterwards choreic movements began in her limbs and face, which gradually became more violent, and a fortnight after this, symptoms of insanity showed themselves: she became maniacal and had hallucinations of sight and hearing. When admitted to the asylum she was in a state of acute chorea, but her mania had somewhat abated; she was much exhausted. The spasmodic movements were general. There was no abnormal cardiac sign except that the beat was very rapid—140 to the minute; temperature 102·5°. The choreic movements gradually left the limb and trunk, but continued in the tongue and speech, swallowing and vocalization being rendered difficult. Her mind also became calm and apparently clear. She gradually sank, and died of exhaustion five days after admission. At the necropsy the brain was found, as in the first case, intensely hyperæmic. No diseased condition to the naked eye was discovered. The spinal cord was apparently normal. Heart: slight thickening of the cusps of the mitral valve; no vegetation. Other organs healthy. These cases are interesting, inasmuch as they show how important a part mental anxiety may play in the causation of chorea. In the case of the girl, this condition of mind was apparently brought on by irregularity of menstruation, and was the only cause that could be found. The man had undoubtedly a rheumatic history as well as heart disease, and had also suffered from intense mental emotion. As to the pathology of the disease, the theory which appeared to the author the most acceptable was that it was due to a certain condition of the blood associated with rheumatism and endocarditis.

Dr. Handford, before describing the microscopic appearances found in the two cases related by Mr. E. Powell, gave a Tabular Statement of 154 cases that had been in the General Hospital within the last thirteen years. From these and from the very large number seen as out-patients, he expressed the opinion that chorea was unusually abundant in the Nottingham district. The table showed 2 deaths,and also that in the age and sex distribution, the males were to the females as 1 to 2·4 before the age of fifteen, and as 1 to 4·5 after that age. Thus the liability of the female sex, already unduly great, nearly doubled after the age of puberty. Dr. Handford further expressed the opinion that the endocarditis of chorea, when not rheumatic, was chiefly, if not entirely, of mechanical origin. The endocarditis which was found almost but not quite, invariably in fatal cases, was of a special character. The numerous small vegetations, chiefly limited to the margins of the valves, with little if any general thickening, suggested that the invariable, abrupt, tumultuous, excited, cardiac action in a generally anæmic subject caused a bruising of the margins of the valves where they came into contact, and thus started the endocarditis. He looked upon the endocarditis as a comparatively trivial complication, as far as its immediate effects were concerned, and there seemed to be a pretty general consensus of opinion that it did not materially contribute to the fatal termination. The microscopic appearances in Mr. Powell's cases were illustrated by numerous drawings showing small hæmorrhages, chiefly in the cord and pons, but also in the motor cortex; thrombosis of vessels with hæmorrhage into the lymph sheath; rupture of the vessels in the commissure of the cord; and one vessel in which there was what appeared to be an incomplete embolus. No change was found in the nervous elements of the cord or brain. Dr. Handford expressed the opinion that all the symptoms of chorea were explicable on the hypothesis of a hyperæmia of the nervous centres, and he thought that this view of the pathology of chorea was amply borne out by the camera lucida drawings he had shown. Chorea appeared to be due in mild cases to a hyperæmia of the cord and perhaps the basal ganglia (the lowest and middle evolutionary levels), and where the mind was affected and insanity ensued, the cerebrum (the highest level) had become involved.—*Lancet.*

REVIEWS.

LECTURES ON ECTOPIC PREGNANCY AND PELVIC HÆMATOCELE. By Lawson Tait, F. R. C. S., Edinburgh, England, LL.D., Professor of Gynæcology in Queen's College, Birmingham, etc. Birmingham: The "Journal" Printing Works, New Street, 1888.

Mr. Tait is quite as original and decided in what he writes, as he is practical and thorough in what he does. It is almost impossible to dissociate the lectures and the man, as every page is characterized by that decision and determination that obtain in his operations. The book is not a large one, but it is hard to read it without being convinced that the writer knows what he is talking about, not from a theoretical but from a decidedly practical standpoint. If we may be allowed to state in a few words the views herein advanced they are these: First, ectopic pregnancy is always (at least the contrary has not been shown) tubal; primary rupture occurs from the third to the fourteenth week and may be either into the broad ligament, where it is not fatal (necessarily) and may not demand immediate operative interference, or into the peritoneal cavity when it is invariably fatal unless immediate operative treatment supervene. Secondary rupture into the peritoneal cavity may occur in the first class of cases and the pregnancy go to term; but, in the end, operative interference is demanded. Secondary rupture may not occur at all and the case go to full term, the peritoneum being raised and stripped from the anterior abdominal wall bladder and uterus, and in this event laparotomy is required. The first form of rupture is a most fertile source of pelvic hæmatocele and of abscesses and a frequent result is an opening through the rectum, a possible result opening through the vagina or into the bladder. In the first form of rupture—intra-peritoneal—an operation can alone save life; in the second—extra-peritoneal—an operation can properly be postponed. Under protest that he cannot do better just yet, he advises that the cord be cut near the placenta, the fœtal sac closed save for a drain and the placenta left to be dealt with by the *vis naturæ*. He does not think the possibilities of quiescent lithopædia are sufficient to justify waiting for such a result.

We have already given in the *Journal* the means of diagnosis.

We are not inclined to think the author fair in his consideration of the electrical treatment of these cases, and as for his opinion about the "immoral element that has been introduced" in the destruction of the fœtus by electricity, and that this "would put legitimate practitioners of medicine on a level with abortion mongers and reckless craniotomists," it is worth mentioning only to show the absurd extreme to which a sensible man can go. If the destruction of the child entailed the safety of the mother, and if electricity be the best way to bring about the result neither Mr. Taitnor Mr. Anybodyelse could persuade the vast majority of men that it is improper to do this. He himself says that "nature kills the child in the vast majority of instances of ectopic gestation," and as nature outlines the course of treatment we know of no stronger argument in its behalf—granting that we have a safe and efficient means to sooner bring about the result.

There is one thing we may add, and it is not unimportant, he says: "I am of opinion that no authentic description exists of an unruptured tubal pregnancy;" and later he says: "In fact, the history of these cases is more usually a source of danger than a help to the diagnosis, and unless some exceptional incident occurs, or unless the patient is a good deal more anxious about the state of her pelvis and a good deal less reluctant to have it examined into than Englishwomen are, as a rule, *no diagnosis is possible before the period of rupture*, for the patients make no demand upon us." Even if the physician were sought, he thinks the diagnosis practically impossible before rupture. But we have already transgressed our limits in the consideration of this book. As an apology we offer the extreme interest of the subject and the fact that we are dealing with the man who has probably had the largest experience of any man living or dead, with such cases. We have given rather a *résumé* of his opinions and leave it to our readers to agree or disagree. The book is amazingly interesting from beginning to end and we would do it injustice if we did not acknowledge the great pleasure and satisfaction we gained from reading every line of it.

A TREATISE ON HEADACHE AND NEURALGIA. Including Spinal Irritation and a Disquisition on Normal and Morbid Sleep. By J. Leonard Corning, M.A., M.D., Consultant in Nervous Diseases to St. Francis Hospital, etc. Illustrated. New York: E. B. Treat, 771 Broadway. 1888. Price, $2.75.

Dr. Corning's work is on an interesting and important subject, and is written in a pleasant and instructive manner. There is much that is impracticable to the ordinary practitioner in the line of electrical appliances, and even if every man were in a position to own some of the costly apparatuses pictured and recommended, it is not a matter of common consent that they are desirable. Some are special inventions of the author, and naturally their use is much more warmly advocated by him than by any one else.

The classification of headaches given by the author may be original, or it may be useful, but it is not logical. A tyro will recognize that the first division into intra and extra-cranial is faulty, inasmuch as it is not dichotomous; and it is only necessary to state the sub-divisions for a person who is not a logician to see that the species overlap, or, in the terms of logic, the division is crossed. But here it is:

A. Intra-cranial Headache.
1. Anæmic.
2. Hyperæmic.
3. Nervous or cerebral.
a. Cerebro-hyperæmic.
b. Cerebro-anæmic.
4. Toxic.

5. Sympathetic, bilious, etc.

6. Headache dependent upon organic disease of the brain or its appendices.

B. Extra-Cranial Headache.

1. Neuralgia, general considerations on.

a. Rheumatic.

2. Osteal and periosteal headache.

There is one other point in regard to the division—viz., "general considerations on" does not belong in any classification, whatever may be its place in the table of contents.

Neuralgia and spinal irritation occupy a large proportion of the work. The chapters on dreams, etc., if not interesting from a strictly physiological, are so from a psychological standpoint.

FAVORITE PRESCRIPTIONS OF DISTINGUISHED PRACTITIONERS. With Notes on Treatment. Compiled from the Published Writings or Unpublished Records of Dr. Fordyce Barker, Roberts Bartholow, Samuel D. Gross, Austin Flint, Alonzo Clark, Alfred L. Loomis, F. J. Bumstead, T. G. Thomas, H. C. Wood, William Goodell, J. M. Fothergill, N. S. Davis, J. Marion Sims, W. H. Byford, E. G. Janeway, J. M. Da Costa, J. Solis-Cohen, Meredith Clymer, J. Lewis Smith, W. H. Thomson, C. E. Brown-Séquard, M. A. Pallen, W. A. Hammond, etc. By B. W. Palmer, A. M., M. D. New York: E. B. Treat, 771 Broadway. 1888. Price, $2.75.

This member of the "Medical Classics" seems to be practically a reprint of the same work published by Bermingham & Co. in 1881. There are additions, but few corrections or substitutions. There are many prescriptions that are valuable and useful, but we are rather inclined to think that the book as previously published—that is, in a small pocket volume—is, from the standpoint of utility, more desirable, as it can be more readily carried, and quite as easily referred to. Again, publishing it in a form costing considerably over a dollar more than the original publication, the chief differences being the addition of a few formulæ, with blank pages for more, renders it probable that the book will only be sought in its present shape as a member of the series of "Medical Classics."

THE MODERN TREATMENT OF DISEASES OF THE KIDNEY. By Dujardin-Beaumetz, Member of the Academy of Medicine and of the Council of Hygiene and Salubrity of the Seine, etc. Translated from the Fifth French Edition by E. P. Hurd, M.D., Newburyport, Mass. 1888. George S. Davis, Detroit, Mich.

There is in everything that Dujardin-Beaumetz, writes so much of interest that it is always a pleasure to note the publication in English of any of his writings. We noticed a few months ago his work on "Diseases of the Liver," and what we said there as to the general character of the work we could aptly repeat here. Diseases of the kidney have received no small share of attention from a therapeutic standpoint, and this little work is fully abreast of the advance made. The translator has interpolated, not without good judgment, two comparatively short, American methods for the quantitative determination of urea, and the translator's notes are, as usual, valuable and useful. The volume is in every way worthy of a place in the excellent series of which it is a member.

OUR LIBRARY TABLE.

A CASE OF EXTRA-UTERINE PREGNANCY, EMBRYO DESTROYED BY A TWENTY MILLIAMPERE CURRENT WITHOUT INTERRUPTION. By A. H. Buckmaster, of Brooklyn.

Dr. Buckmaster illustrates the efficiency of the continuous galvanic current in the history of his case. He advises the use of the galvanic continuous current in preference to the other two methods, namely, the faradic and the galvanic interrupted, for the following reasons. The interrupted current will accomplish more with less force than is required by either of the others, and secure at once the death of the fœtus. It will relieve the intense pelvic pain by the sedative influence of the positive pole placed in the vagina. It is without any danger.

The galvanic interrupted current is the most dangerous, because of the strength of the current rendering the danger of rupture of a tube much greater.

The faradic current depends for its effectiveness on the rapid breaking of the current by the magnet, its success is less certain, and it does not soothe as much as the continuous galvanic current. Dr. Buckmaster expresses himself in a concise and pointed manner, and his paper shows careful and conscientious consideration of his subject.

WE have before us "The Constitution and By-Laws of the American Pediatric Society," with its officers and members for the year 1888–89. This society was organized in Washington, D. C., September 18, 1888, having for its object the advancement of the physiology, pathology and therapeutics of infancy and childhood.

The following are its officers for the current year:

President: A. Jacobi, M.D., New York.
First Vice-President: A. V. Miegs, M.D., Philadelphia.
Second Vice-President: T. Torchheimer, M.D., Cincinnati.
Secretary: W. D. Booker, M.D., Baltimore.
Recorder: Wm. P. Watson, M.D., Jersey City.
Treasurer: Chas. Warrington Earle, M.D., Chicago.

With the most eminent authorities upon this subject in this country as members, the success of this society is insured, and we shall watch their future with great interest.

Why Electrolytic Treatment of Stricture does not Succeed in all Hands. By G. C. H. Meier, M.D., Member of the New York State Medical Association.

That the author is a firm believer in the treatment of stricture by electrolysis is shown in the first few pages, and he cannot understand how anyone can differ with him.

To ensure success, all acute inflammation must have subsided. You must also be certain that there is an organic stricture. The sittings should not occur oftener than once every ten days; better if two or three weeks should intervene. Never pass more than one instrument, nor the same instrument more than once at one sitting. The writer claims to have had great satisfaction when all the rules have been followed out, and he attributes the failure of some to too much haste.

Intubation of the Larynx. By F. E. Waxham, M.D., Professor of Otology, Rhinology and Laryngology, College of Physicians and Surgeons of Chicago, etc. Published by Charles Truax, 75 & 77 Wabash Ave., Chicago, Ill. 1888.

This little book is useful and practical. Its object is "to give all the information possible upon the subject of intubation." As an aid to its practice the author gives a brief chapter, with cuts, on the anatomy of the larynx. About half the book is taken up with the record of cases. The author has made an important modification of Dr. O'Dwyer's original tube, consisting in a metal epiglottis. The cuts are well done, and the book is desirable to any one who wishes to study intubation.

On the Treatment of Cystic Goitre. By T. Mark Howell, F.R.C.S.E. Printed by J. & A. Churchill, London.

The writer is a strong advocate of Sir Morell Mackenzie's treatment, namely, the puncturing of the most dependent point of sack with trocar and canula, and after drawing off the fluid, to leave the canula in, fastened to a piece of tape passed around the patient's neck, inject a solution of perchloride of iron (ʒii of the salt to ℥i water) into the sack. Plug the canula and leave solution in for seventy-two hours. If suppuration has not begun by that time, inject solution of iron again, and leave in for the same length of time as at first. After suppuration has commenced treat like a chronic abscess. He prefers the solution of iron to other astringents because of its styptic qualities.

The Yellow Fever Panic. By J. C. Le-Hardy, M.D., Savannah, Ga.

Dr. Le-Hardy claims that yellow fever is not contagious. A great deal of moisture with great heat are necessary to its production. "Yellow fever is produced by the inhalation of the germs (spores) of a plant which floats in the air of an infected place." He does not think that quarantine will prevent the epidemic, but the general sanitary condition of the place should be improved. He earnestly urges that a bureau of health should be instituted, whose duty it shall be to investigate everything that may affect the health of the people.

INFLATION OF STOMACH WITH HYDROGEN GAS IN THE DIAGNOSIS OF WOUNDS AND PERFORATIONS OF THIS ORGAN. REPORT OF A CASE. By N. Senn, M.D., Ph.D., Milwaukee.

The author first made his experiments upon fourteen dogs, to ascertain the amount of pressure required, and in one case introduced a hypodermic needle, thus allowing the escape of the gas. He successfully made a diagnosis of two perforations of the stomach in the case of a man seventy-two years of age, who received a wound in the epigastric region.

ECZEMA, ITS TREATMENT. By Albert E. Cottier, M.D., Detroit, Mich. Read before the District Medical and Library Association.

The writer in a few words gives the causation and treatment of this troublesome disease. As one of the chief internal causes he gives derangement of the digestive and the nervous system. The external causes are too numerous to mention here. There are many good points in treatment, and we regret that our space will not allow the mentioning of them.

REPORT ON HYDROPHOBIA. By Chas. W. Dulles, M.D., Philadelphia. Reprint from the Transactions of the Medical Society of the State of Pennsylvania, June 18, 1888.

Dr. Dulles regards hydrophobia as more the result of fear, caused by the bite of a supposed rabid animal than a disease itself. He thinks many of the symptoms are caused by the impression made upon nervous system. Hydrophobia is a chain of symptoms rather than a disease.

TWO CASES OF GUNSHOT WOUND OF THE ABDOMEN. RECTAL INSUFFLATION WITH HYDROGEN GAS AS A DIAGNOSTIC MEASURE. By N. Senn, M.D., Ph.D., Milwaukee.

Dr. Senn illustrates in these cases the great advantage and importance of early operations in the cases, also the value of hydrogen gas as a means of making a certain diagnosis of perforation.

DOUBLE CHORIODO-RETINITIS; With Partial Degeneration of the Optic Nerve, Associated with Curious Lymph Extravasation into the Retina and Vitreous. By Charles A. Oliver, M.D., Philadelphia, Pa. Reprinted from Transactions of American Opthalmological Society, 1887.

THE RADICAL CURE OF VARICOCELE, ATTENDED WITH REDUNDANCY OF SCROTUM. By Morris H. Henry, M.D., LL.D., of New York.

"Mineral and Thermal Springs of California." By W. F. McNutt, M.D., Professor Principles and Practice of Medicine, University of California, San Francisco, Cal.

"Report of the Superintendent and Board of Managers of the State Lunatic Asylum, Austin, Texas, for 1888-89."

"Announcement of the Medical and Surgical Department of the University of Medicine, 1888-89."

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PHARMACY AND THERAPEUTICS.

Action of Certain Drugs on the Utero-ovarian System—Accidental Rashes in Typhoid Fever.—The opening meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, was held on November 16th, the President (Dr. Atthill) in the chair.

Dr. Lombe Atthill said, in discussing the action of certain drugs on the utero-ovarian system, that much obscurity existed as to the action which medicines exercise on the utero-ovarian system, and consequently the greatest empiricism prevailed in prescribing for cases in which the organs referred to were engaged. The great majority of females were under the impression that no medicine of any kind should be taken during the continuance of the menstrual flow, and that to take even a mild purgative would be injurious, and many practitioners shared in this unfounded prejudice. He was perfectly satisfied that none of the ordinary medicines, taken in moderate doses, produced any effect on the function. To this statement one exception must be made; drastic purgatives, taken in large doses, seemed in many women to increase the menstrual flow. When we come to consider the action of drugs in cases in which menstruation (*a*) does not appear at all, or very irregularly, (*b*) in insufficient quantity, or (*c*) is unduly profuse, the first question is, does ergot, savin, quinine, or even strychnine, in medicinal doses, produce any appreciable effect on the muscular fibres of the normal uterus? To him it seemed that writers and practitioners assume that these drugs have this effect, without sufficient grounds to justify their belief. For his part he doubted it. Quinine he had administered daily in doses from two to ten grains during the menstrual period, and never observed it to produce any pain or discomfort, which it might be expected to do if it induced contraction of the uterine fibre; nor had it ever once among his patients exercised any influence on the amount or duration of the period. His experience of the effects of strychnine was the same. Again, he had given ergot alone, or combined with other drugs, as an emmenagogue, and had never known it to have any effect as such. With reference to the action of drugs in cases in which menstruation is too profuse, or in which actual uterine hæmorrhage occurs, putting aside those cases which depend for their origin on abortion, pregnancy, or parturition, the medicines known as astringents might at once be discarded as useless in cases of uterine hæmorrhage. He did not believe that tannin, tannic, or gallic acid, or any other astringent, had any effect whatever in these cases; indeed, their administration was worse than useless—he believed it to be injurious; and the mineral acids seemed to him to be of no greater value. Full doses of the tincture of the perchloride of iron had, in his hands, sometimes been of great use in checking the loss, but it was always in anæmic women, and its beneficial effects were probably due to the iron it contains, but at best it was a very unreliable agent. Ergot was the only one on which he placed any reliance. With respect to the action of medicines in arresting hæmorrhage where malignant disease of the uterus existed, he had little to say; none could be relied on. He had sometimes thought that the exhibition of Chian turpentine, as recommended by Dr. Clay, did good in this respect, but further experience had lessened his faith in it. Tincture of the perchloride of iron, in full doses, was also sometimes useful, but at best any good done was but transitory.—Dr. J. A. Byrne said it was an established fact, though difficult of explanation, that certain medicines —*e. g.*, savin, rue and aloes—have peculiar effects on the female generative organs. This effect was not due to purgation; for it was not found that a good dose of Epsom salts brought on menstruation. No doubt active purgation had occasionally produced it; but a medical practitioner who wanted to produce an emmenagogue effect would not order sulphate of magnesia. It was difficult to explain exactly how the medicines produced the effect. At the same time, it was abundantly clear that savin, rue, and ergot stimulated uterine action. Hence the necessity of careful examination. He considered it a dangerous doctrine to broach that in the early months of pregnancy ergot might be given with perfect indifference as to the result. Such a procedure did not accord with his experience. In threatened abortion he would feel it his duty not to stimulate but to pacify the nervous system; and no matter how the action of ergot might be explained, it acted as a stimulus to the uterine fibres. Electricity, too, instead of retarding, would probably expedite the expulsion of the fœtus. As regarded the question of nomenclature, he did not see why the word "emmenagogue" should be discarded; it was as good a name as could be suggested.—The President, replying, said he had never experimented medicinally with an impregnated uterus, and he had never given ergot except in cases of threatened abortion. He believed that ergot had no effect in producing abortion, though given with the intent of producing criminal abortion; and his belief was founded on extensive experience in administering ergot as a preventive of post-partum hæmorrhage. Ergot was much more likely to prevent than to produce abortion, and he had prescribed it hundreds of times. He had never given Epsom salts as an emmenagogue.

FOR earache, the *Pharmaceutical Era* recommends that five drops of chloroform be put on a little cotton or wool in the bowl of a clay pipe, and the vapor blown through the stem into the aching ear.

INCOMPATIBLE ANTISEPTICS.—The *Journal de Médecine de Paris* points out the incompatibility of the following commonly prescribed substances:

Corrosive sublimate and iodine.
Corrosive sublimate and soap.
Phenic acid and iodine.
Phenic acid and permanganate of potassium.
Iodine and soap.
Salicylic acid and soap.
Salicylic acid and permanganate of potassium.
Oil, soap, or glycerin, and permanganate of potassium.—*Medical News.*

ON THE DIHYDROBROMIDE OF QUININE FOR SUBCUTANEOUS INJECTIONS (J. P. Parker).—The insolubility of quinine salts has done much to prevent their hypodermic use by practitioners. The chemical compound of two molecules of hydrobromic acid and one of the alkaloid quinine is an acid salt soluble in five parts of water at 59° F., and when dissolved in that quantity of water has a sp. gr. of 1056—about the same as that of the blood. The salt is permanent. The author has used it often hypodermically, and has never seen it cause local mischief. He also thinks the bromine element may prevent some of the unpleasant symptoms of cinchonism.—*N. Y. Medical Journal,* December 15, 1888.

ORIGINAL CORRESPONDENCE.

CINCINNATI, OHIO.

An unusual accident happened at the Cincinnati Hospital recently which was of considerable interest. One of the externes, as the internes are called who are serving their term as externes preparatory to taking a position as internes, was acting as assistant to Dr. P. S. Connor, who was about to perform an operation. The young man, whose name was J. E. Griewe, was heating a platinum knife by means of a lamp and a bottle of benzine, the latter attached to a belt passed around his waist. The bottle was too full, and a large quantity of the benzine was thrown out causing the explosion. In an instant the young man was enveloped in flames. The burning fluid set fire to his clothing, ran over his face and hands burning them frightfully. The operation was to take place in the amphitheatre, which was crowded by some three hundred students which made the excitement intense. The flames spread to the cot where the patient lay, half under the effects of the anæsthetic. As soon as he became aware of the scorching flames, he sprang to the floor and in a half-clad condition ran from the room. Those about the unfortunate young man succeeded in throwing him down, covering him with sheets, and soaking him with water. The flames were extinguished. The sufferings of Griewe were intense, and for some time his condition was considered precarious, but is now so much improved that his ultimate recovery is expected, though he will remain disfigured. Dr. Connor says this is the first accident of this kind of any seriousness which has happened within his knowledge. It is certainly a rare misfortune and teaches us to be careful in handling this mixture.

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The Cincinnati Obstetrical Society held its regular monthly meeting at the private hospital of Dr. T. A. Reany. The subject up for the evening's discussion was Placenta Prævia, which was introduced by a paper by Dr. Byron Stanton. The discussion was participated in by a number of those present, and was very one-sided, one man arguing against the field. This gentleman, however, fought like the Prussian that he was. After the adjournment of the meeting the society retired to Dr. Reany's new residence adjoining, and partook of refreshments supplied by Mrs. Reany. The society will hold its January meeting at the residence of the retiring President, Dr. Giles S. Mitchell, and the election of officers for the ensuing year will occur.

* * * *

The profession of medicine has within its ranks as many brainy men and women as any other avocation of mankind. Such was the opening sentence of a sermon at the Second Presbyterian Church, recently, by Rev. Dr. George P. Hayes. With such a start the sermon, of course, proved to be an interesting one. Dr. Hayes is one of the leading men of his Church, being a D.D. and LL.D., formerly President of Washington and Jefferson College, Pennsylvania, and Moderator of the General Assembly of his Church. He went on to say that into every household these medical people are called in times of sorest distress, and in them is put the trust of our own lives and the lives of those we love. Before the minds of the medical profession are set three of the strongest motives which influence human conduct: fame, wealth and usefulness. No profession relieves so much pain and so much suffering as this profession of medicine. The doctor is continually going about doing good to those that are suffering. With these three motives, wealth, fame and benevolence, before its members this profession rightfully gathers within itself as much intellect and tact as is given to any profession of man. Dr. Hayes enjoys the great peculiarity in his profession of having a remarkable amount of sense about medicine.

E. S. McKee, M.D.

MISCELLANEOUS.

THE USE OF SUBCUTANEOUS INJECTIONS OF ANTIPYRIN AND COCAINE DURING LABOR (Dr. De La Touche in the *Bull. Gen. de Thera.*).—Having been called to a first labor in a woman, æt. twenty-four years, the author found her in a violent state of excitement. The pains were strong and the patient's cries were phenomenal. He prepared a solution of fifteen grains of antipyrin and a fifth of a grain of cocaine in half a drachm of distilled water, which he injected at intervals into the abdominal walls to the extent of seven grains of antipyrin and one-tenth grain of cocaine. The patient at once became calm and the pains were assuaged, though the expulsive efforts continued as before. Delivery was normal. He commends this means of attenuating the pain as free from the risks of chloroform.

RUPTURED TUBAL PREGNANCY (Dr. Granville Bantock in *British Med. Journal*).—Exhibited specimens from the following case: The patient, æt. twenty-six years, had one child five years previously. Menstruation had been regular and moderate in amount, often painful. The last period extended from March 10th to the 13th. A month or so after that she had some morning sickness. For the last six weeks she had complained of sharp pain in the left inguinal region and lower abdomen. On June 18th she was seized with a sharper pang than she had ever had before. He had been called to the case three days afterwards, when an ill-defined tumor of small size could be felt in the neighborhood of the uterus, and there was a slight sanguineous discharge. The patient was removed to the hospital, and operative interference necessarily postponed until the following day. The abdomen was found to be full of blood. Gestation had taken place in the left Fallopian tube, which had ruptured, and the fœtus was lying in front of the uterus. Dr. Bantock at once secured the pedicle and cleared out the cavity. The ovary and tube on the opposite side were found to be intimately adherent, and were also removed. A drainage-tube was employed. The patient was able to leave the hospital on the twenty-fourth day.

EARLY TWIN EMBRYOS.—Twin pregnancies are of great interest both to the obstetrician and to the embryologist. True twins are developed from one yelk, and it has long been known that the embryonic appendages of one embryo may cut off those of the other from the placenta, and thus give rise to remarkable malformations. The placenta is common in all one-yelk twins. The simultaneous development of twins from two ova is also an interesting subject. At a meeting of the Berlin Obstetrical and Gynæcological Society, Dr. Gottschalk exhibited a pair of twins aborted at the second month. They showed very marked differences in their degrees of development. The mother was thirty-one years old, weakly and anæmic; her youngest and second child was two years old. She aborted eight weeks after the cessation of the catamenia from no particular cause. The larger ovum was expelled into the vagina without aid; the lesser had to be detached from the fundus with the finger. Both ova were fresh and uninjured. The bigger was just under two inches broad and over three long; the smaller an inch long and four-fifths of an inch broad. The extremities of the larger embryo were completely developed; those of the smaller formed mere buds. The relative sizes of the placentæ corresponded to the development of the ova. Dr. Gottschalk did not consider that he had to do with a case of superfœtation. He traced the lesser ovum to the same period of ovulation as its brother, considering, however, that it was fertilized somewhat later.

DYSMENORRHŒA AND STERILITY (J. H. Croom, M.D., in *British Medical Journal.*)—The treatment consists in removing the cause of the dysmenorrhœa—namely, the congestion—by means of careful attention to the condition of the bowels, which in nineteen cases out of twenty require careful regulation. I always avoid the use of opium, chloral and alcohol as likely to increase congestion, and recommend the use of the hot vaginal douche. When the congestion is confined to the uterus proper, say in the case of an acute version or flexion, and where there is no tenderness nor any morbid condition to be detected in the appendages, the use of the dilator or graduated bougie, by destroying the spasm at the os internum, and generally relieving uterine congestion, will give relief; but unless the cases are carefully chosen, ovaritis and so forth are apt to be set up, and the patient's sufferings increased rather than relieved.

If the patient be married, such treatment, along with prolonged absence from her husband, is often followed by the most beneficial effects.

DYSMENORRHŒA AND STERILITY (Dr. F. Barnes in *British Med. Journal*).—Dysmenorrhœa, in a large proportion, is dependent upon obstruction. To begin with the most absolute case, that of complete occlusion, was in imperforate hymen; then ascend to the os externum uteri partially closed; here they had dysmenorrhœa frequent, not indeed constant. It was in accordance with the laws of physics and of gravitation that a narrow outlet and flexion would obstruct the flow of menstrual fluid. It had been said that flexions would no more cause dysmenorrhœa than the bends of the Thames would hinder the flow. Now, as an old sailor, and one who had spent much time on the river, he was in a position to affirm that these bends did obstruct the flow, causing back eddies. Then again, the comparison with a river was false; the cervix uteri was a closed conduit. Now, any one who had handled a Higginson's syringe must know that flexion of the tube would obstruct the flow, and he knew that he must straighten the tube to facilitate the flow. As to treatment, he appealed to very long experience. He had begun, as the late Professor Simpson did, by dilating by bougies, and as many had done since, he made for himself graduated dilators. The method was unsatisfactory; it was tedious, painful, and the contraction often returned. He had therefore adopted the method of "discission" of Dr. Peaslee, that was a carefully defined bilateral incision extending only half way between the os externum and the reflexion of the vagina. If you incised beyond this point you were apt to divide vessels, which remained gaping, giving rise, perhaps, to septicæmia and pelvic peritonitis. He found it unnecessary to use intra-uterine stems. Nothing but the limited incision and rest was required. He could say honestly that for the last fifteen years he had no accident to regret, and the success was almost uniform.

LEBER ON INFLAMMATION.—Th. Leber, of Göttingen, has lately been engaged in some investigations having for their aim the solution of the question whether suppurative inflammation is exclusively produced by micro-organisms, or whether it may also be set up by purely chemical substances. By means of injections of completely sterilized cultures of staphylococcus pyogenes aureus into the anterior chamber of the eyes of rabbits, he was able to induce intense suppurative inflammation. This, however, differed from similar inflammation produced by living staphylococci, inasmuch as it showed no disposition to spread; and even when the local appearances were of a very severe nature, the morbid process rapidly came to an end. From staphylococcus cultures different chemical crystallized substances were obtained, which were shown by their reactions not to be identical with the ptomaine obtained by Brieger from staphylococcus cultures, and which he, in consequence of its property of setting up suppurative keratitis, denominated "phlogosin." Besides, Dr. Leber was able by means of his investigations to show that when suppuration was set up the pus corpuscles make their way in a centripetal manner towards the spot where the inflammatory stimulus exists. He found that capillary tubes containing a small quantity of a substance capable of inducing inflammation when introduced into the anterior chamber of the eye became filled after a time with pus, while no pus at all could be detected in the eye itself. Dr. Leber considers this attraction of leucocytes by chemical substances as analogous to the attractive influence of certain chemical substances in vegetable cells which has already been observed, and which has received the name of "chemo-tactical action." Finally, Dr. Leber finds that in suppurative inflammation, fibrin and the tissues become dissolved by means of leucocytes; for example, pieces of cornea impregnated with sterilized staphylococcus culture, when introduced into the anterior chamber of the eye, became rapidly dissolved. It was found, moreover, that pus, when free from bacteria, enjoys the property of causing a local liquefaction of nutritive gelatine. Dr. Leber recognizes in these properties of leucocytes (their ability to absorb foreign bodies and to dissolve fibrin and tissues) a valuable defensive arrangement which tends to shield the organism against external injuries. He would therefore look upon inflammation as an "important process, which consists in rendering the organism obnoxious to external injurious influences."

TREATMENT OF PHTHISIS PULMONALIS.—The records of ten cases reported by Drs. A. Flint and R. Maury show that creosote by the stomach and by inhalation, in cases of solidification without cavities, effects prompt and decided improvement in all phthisical symptoms, with increase in appetite, weight and strength, even with surroundings much less favorable than would obtain in many cases in private practice.

In cases with small cavities much less improvement is to be looked for, but some benefit may be expected.

In cases with large cavities the treatment seems to have little more than a palliative influence.

The observations recorded are defective as regards the influence of the treatment upon the bacilli. In one case, with large cavities, it was noted that the number of bacilli was diminished. No other examinations for bacilli were made during or after treatment.

No estimate was made of the relative value of creosote taken into the stomach. As regards the inhalations, it is assumed that the chief benefit was derived from the creosote, the spirit of chloroform and the alcohol rendering this agent more volatile and soothing the mucous surfaces. The inhaled vapor* undoubtedly penetrated by diffusion as far as the air-cells. It is by diffusion that fresh air, anæsthetic vapors, etc., penetrate the lungs, and cases of pneumonokoniosis illustrate the fact that even solid particles may be carried to the pulmonary vesicles.

In a case of irritative cough of several month's standing, with slight bronchitis and emphysema, but no signs of phthisis, which resisted ordinary treatment, three inhalations produced complete relief, and the cough had not reappeared at the end of four weeks.

When given by the mouth, three drops of creosote are given three times daily.

"INFECTIOUS JAUNDICE."—Dr. W. P. Vassilieff contributes to the *Ejenedalnaya Klinicheskaya Gazeta* of St. Petersburg an interesting article on "infectious jaundice," founded on observations made in the Alexandrovski Military Hospital in 1883. There were eleven cases, at first somewhat puzzling, of an acute infectious disease, which has recently been described under several different names—typhus hépatique, nephro-typhus biliosus, typhus abortivus cum ictero et nephritide, morbus sui generis, etc. This disease is usually met with as a sporadic affection. There is fever very often at the beginning, then enlargement of the liver and spleen, jaundice, and kidney trouble. The disease usually terminates favorably. From the histories of the eleven cases given by the author, it is clear that it is an acute general affection, which commences suddenly with a chill. In some patients nausea, and even vomiting, occurred, after which there were general debility and severe pains in some of the joints, often also in the muscles, especially those of the lower extremities; the appetite was usually bad at the beginning; sometimes there was very great thirst; the patients generally slept badly, and frequently suffered from delirium. When the cases were seen early the temperature was found to be high, the pulse soft and rapid; the tongue was moist and slightly coated; the skin hot and dry. At the beginning there was usually observed enlargement and tenderness of the liver and spleen. Albumen and sometimes casts were found in the urine; also, when there was jaundice, bile pigment. The lungs sometimes were affected slightly (with bronchitis); in two cases pleurisy occurred; the bowels were usually constipated at the beginning. Later on they were sometimes relaxed, the motions generally being colorless. Frequently at the commencement, and sometimes throughout the whole illness, there were attacks of epistaxis; occasionally also herpes labialis occurred. No micro-organisms could be detected in the blood. The patients, especially when they were admitted in an early stage of the disease, gave the impression of great prostration, but after some days this passed away, and they began to get better. The temperature generally fell about the eighth day, sometimes as early as the seventh, at others as late as the eleventh; sometimes there was a second rise of temperature, which did not usually appear to affect the patient much. Although the disease was of such short duration, the patients after the temperature had fallen appeared to be extremely weak, and regained strength somewhat slowly. Although Dr. Vassilieff has only recorded eleven typical cases, he has from time to time had an opportunity of observing others of a similar character in the hospital. One of these proved fatal; at the post-mortem examination extravasations of blood were found on the serous and mucous membranes and slough of the mucous membrane of the pharynx. Thirty-six other cases have been described by Landouzy, Mathieu, Weil, Goldschmidt, Wagner, Roth, Aufrecht, Fiedler and Haas; at least, Dr. Vassilieff has come to the conclusion that his cases and theirs are all examples of the same affection. This disease is met with chiefly in the summer, and nearly always effects working men, only three cases being on record where the patients were women; most of those affected were between sixteen and twenty-five years of age. It occurs in different parts of Europe in the form of a sporadic, acute, feverish affection, with severe nervous symptoms, and with enlargement of the liver and spleen, functional kidney disturbance, jaundice, and pains in various groups of muscles. In Dr. Vassilieff's opinion, it bears most resemblance to the bilious typhus met with in Egypt and Smyrna and described by Drs. Kartulis and Diamantopulos; and it appears to be a disease *sui generis*, differing from recurrent bilious typhus.

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* Equal parts of creosote, alcohol and spirits of chloroform.

TREATMENT OF CARBUNCLE.—Dr. Robert Main gives the following experience of the treatment of carbuncle in the *British Medical Journal*, May 19th:

I have tried the expectant treatment of carbuncle recommended by Paget, but find it so long, tedious, and painful to my patients that I completely discarded it. The treatment by excision and scraping is too severe to be generally adopted in private practice, although apparently very successful.

I have adopted the following for the last three years, to which I have added the hypodermic injection of cocaine. I inject into the carbuncle hypodermically half a grain of hydrochlorate of cocaine, and wait about five minutes until the skin is quite anæsthetic; then I make a small incision into the centre of the carbuncle with a tenotomy-knife, and insert a small, sharp piece of potassa fusa, and then push it home. Afterwards a piece of belladonna plaster is cut circular, a little larger than the carbuncle, and placed over it. The plaster serves the double purpose of retaining the caustic, and of alleviating the pain. This is kept on for eight hours, and then it is taken off and hot linseed poultices are applied for the same length of time. The result is that the patient always recovers about three days after the commencement of the treatment, which is in this way carried out almost painlessly.

RESECTION OF A DETACHED LOBE OF THE LIVER.—Dr. C. Langenbuch, of Berlin (*Berliner Klinische Wochenschrift*, *Centralblatt für Gynäkologie*), relates the case of a woman, æt thirty years, who had suffered for eight years with abdominal pain on walking, standing, or lying down. A mass as large as one's fist was found in the upper part of the abdomen, hardly noticeable externally. It was symmetrical, extending about four finger-breadths from side to side, and reaching from the xiphoid cartilage to within two inches of the navel, smooth and somewhat elastic. It was thought to be an echinococcus sac, but on opening the abdomen it was found to be a large, detached lobe of the liver, proceeding from that portion of the organ lying to the left of the gall-bladder. Its ligamentous connection with the proper mass of the liver was tied in separate parts, and then, with the exception of a knob of tissue, it was cut away. There was no bleeding at the time, and the abdominal incision was closed. Within a few hours, however, there were urgent signs of internal hæmorrhage; the wound was opened, and the abdomen was found filled with blood. A vessel was still bleeding slightly, and a ligature was applied to it. The patient recovered without fever. Moderate ascites developed gradually, but disappeared after two tappings.

PIN IMBEDDED IN A WOMAN'S HEART—(Peabody, G. L.). The patient died at the New York Hospital the 26th of last May. She was under observation only a few hours. On admission she was suffering greatly from dyspnœa and was unable to give a circumstantial account of her illness. For some time previously she had passed less urine than normal, and her feet had been swollen. She suffered from constipation, vertigo, spots before the eyes. Her appetite was poor, bowels regular. Temperature 108.8°, respiration 44, pulse 130. The specimen of urine was of a yellow color, acid in reaction, and of a specific gravity 1,020, with albumen, epithelial casts, and pus cells.

Her chest contained a large amount of fluid; moist râles both behind and in front. No murmur. Heart-sounds very feeble. Œdema of feet and legs. She was given acetate of potash and infusion of digitalis, and passed a fairly comfortable night. The next morning she seemed to be doing fairly well, when she suddenly experienced great precordial pain, distress, and intense dyspnœa. She was given morphia subcutaneously, but she continued to suffer until death came to her relief in half an hour.

At the post-mortem a black, eroded pin, the top of the head of which was free in the left ventricle, was seen piercing one of the papillary muscles attached to the anterior segment of the mitral valves, and penetrating the wall of the ventricle obliquely to the depth of a little more than an inch. The point of the pin was distant one-fifth of an inch from the external surface of the heart. There was no evidence of any recent inflammation in this neighborhood, but the endocardium about the protruding head of the pin was greatly thickened and snow-white, and firmly adherent to the edge of the head. A most careful examination failed to reveal the route by which the pin had traveled to its present location, and it is interesting that it should have remained for a long time free in the cavity of the ventricle without producing thrombosis. The pin had evidently been in its present situation a long time, and in all probability had entered the body by the mouth.—*Med. News*, Oct. 20, 1888.

SULPHONAL.—Sulphonal still continues to attract considerable attention, and its use is becoming very general. Dr. Julius Schwalbe, in the *Centralblatt für die Gesamte Therapie* for October, 1888, refers to fifty cases of the most varied affections in which sulphonal was employed. In sixty-six per cent. of these sleep was produced within three hours. In the nervous cases this action was even more pronounced—in ninety per cent. of them the indications being successfully fulfilled. Dr. Schwalbe consequently recommends sulphonal as a good hypnotic, especially in cases of nervous insomnia, in doses of from fifteen to thirty grains. Where insomnia is the result of some direct organic distress, its action is more or less uncertain. He has found that on account of its freedom from odor and taste sulphonal is readily taken, and that it does not affect either the temperature, pulse, or respiration, and is consequently greatly to be preferred to morphine or chloral. In febrile affections, and in all cases where there is heart weakness, it is to be guarded against. It is especially suited for children, and the insignificant disturbances which it occasionally produces are not of sufficient importance to be counter-indications for its employment. M. Matthes has also employed sulphonal in twenty-seven cases in Dr. von Ziemssen's Clinic, Munich (*Centralblatt für Klinische Medicin*, October 6, 1888), his report being accompanied by an analysis of the pulse-curves obtained through the use of the sphygmograph. He likewise confirms the favorable position which the drug has obtained, and believes that it is to be preferred to all other hypnotics, recommending, however, that the drug should be given at least an hour before it is desired that sleep shall be produced. He also thinks that when neuralgia or cough are the occasion of insomnia, that its result is unreliable, although he refers to several cases of neuralgia in which its employment produced relief. No effect was produced upon the pulse-curve, even after the administration of sixty to seventy-five grains.—*Therapeutic Gazette.*

THE STATE OF THE MEDICAL PROFESSION IN RUSSIA.—Dr. C. Yaroshevski contributes to the *Russkaya Meditsina* a long article on the state of the medical profession in Russia. He points out that there are only 18,000 doctors for a population of one hundred millions, or one medical man to every 6,500 persons. This number of doctors in proportion to the population is very much less than in other European countries, yet the destitution amongst members of the profession is alarming. Of late there have been numbers of suicides of medical men who were without the bare necessities of life. The fees for medical attendance are very low. Still, in Odessa 40 per cent. of the whole population and 94 per cent. of the very poor died without having had medical attendance. A similar state of affairs exists at Kostrome. Dr. Yaroshevski attributes this deplorable condition of things to the ignorance of the Russian people, who prefer to consult soothsayers and magicians rather than educated medical men, to the monopoly enjoyed by the pharmacists, and to the large number of Feldshers who are allowed to practice. The Feldshers are men who have some rough knowledge of surgery and the use of a few drugs. They are generally men who have served in the Ambulance Corps or have been hospital attendants, and on the strength of this slight knowledge they are licensed to practice. The author suggests the appointment of a medical minister to take active measures against the magicians, the removal of the pharmacists' monopoly, and the abolition of Feldsherism.

CARDIAC FAILURE IN DIPHTHERIA.—At the meeting of the New York Academy of Medicine on November 1st, Dr. J. Lewis Smith read a paper on Sudden Heart Failure in Diphtheria; its Pathology and Treatment. After discussing the various hypotheses advanced to explain this occurrence, such as degeneration of the muscular wall and cardiac thrombosis, Dr. Smith inclined to adopt the theory of deficient innervation, making it indeed a form of diphtheritic paralysis; the frequent association with vomiting and dyspnœa suggesting that the pneumogastric is the nerve implicated. The modern view of diphtheria is, he said, that the systemic infection is due to ptomaines produced on the surface by the microbes that are the cause of the disease; and on this view the neuritis, myelitis, etc., are produced by the same toxic influence. Dr. Loomis believed that heart failure early in the course of the disease was due to the systemic poisoning, and that when heart failure occurred in advanced stages of diphtheria, it was due to peripheral neuritis. Dr. Beverly Robinson contended in favor of the cardiac failure being due to thrombosis and granulo-fatty degeneration of the walls of the heart. All the speakers agreed as to the paramount importance of disturbing the patient as little as possible. The President, Dr. A. Jacobi, pointed out that paralysis of the muscles of respiration might occasionally be mistaken for cardiac failure in the later stages of diphtheria. He said that alcohol was an invaluable agent in diphtheria, and if he were limited to one remedy he would select it.

GLYCERINE ENEMATA IN CHILDREN.—In a communication to the *Lancet*, November 10, 1888, Mr. G. A. Carpenter says that during the past four months glycerine enemata have been used at the Evelina Hospital to the exclusion of purgatives, for the treatment of constipation among the patients. He gives a tabular statement of the results obtained from 214 injections given to sixty-three children, and says that an action of the bowels followed in five minutes or under in ninety-five instances; in ninety, in thirty minutes or less; while in four the time was not recorded. Fifteen injections failed to relieve within the above-mentioned times, and intervals varying between thirty-five minutes and eleven hours were noticed in these. If one analyzes, he says, the fifteen instances in which more than thirty minutes elapsed before any action of the bowels took place, it will be noticed that they occurred in ten children, of which the most marked, as regards the length of time elapsing, are the cases of two special patients. It is worthy of note, he says, that five of the ten cases were suffering from tubercular disease in some form or another; three were osteotomies, and in consequence restrained from movements; one was a fractured femur treated in a double Bryant's splint; and, lastly, one was a case of chorea, in which, as is often the case, constipation was marked. Seven of the ten children were girls.

Coming to the failures, he finds that an osteotomy (in a girl) was accountable for a want of success and a return of the injection on three occasions; but in this child the injections were attended with success on eighteen different occasions, the bowels being relieved with one exception within the half-hour. In a case of tubercular disease of the spine, the first glycerine enema acted efficiently, an evacuation of the bowels occurring in five minutes; but a dose of three drachms failed later on, and a repetition gave no relief. This also was a girl. A knee excision (in a girl) shows one failure and three successes, the average time required for the injections to act being thirteen minutes. In the case of a child suffering with meningitis, the enema was returned, and not repeated. In a child with "pulpy" elbow, there was one failure and two successful injections. A case of suppuration of the antrum, he says, is responsible for one failure and one success. Five of these children were girls, and one was a boy. In all of the failures it will be noted that the bowels were capable of responding to glycerine stimulation at one time or another, and in no case was there complete failure.

As regards the quantity of glycerine used for an enema, he states that one drachm was given in 156 cases; a drachm and a half to forty-eight; two drachms to seven; and on two occasions three drachms were injected. In 154 instances the injections were followed by normal motions; in twenty-six the motions were loose; in eighteen they were of more than natural consistency; in six the enemata were followed by scybala; and in ten they were either returned or failed to act. In no instance were the enemata attended with unpleasant symptoms, either locally or constitutionally.

AMPUTATION OF THE PREGNANT UTERUS.—Mr. Lawson Tait, in a paper published in the *Sacramento Med. Times*, December, 1888, says: This operation, I venture to predict, will revolutionize the obstetric art, and in two years we shall hear no more of craniotomy and eviscerations, for this new method will save more lives than these proceedings do, and it is far easier of performance. It is the easiest operation in abdominal surgery, and every country practitioner ought to be able and always prepared to perform it. No special instruments are required—nothing but a knife, some artery forceps, a piece of rubber drainage tube, two or three knitting-needles and a little perchloride of iron.

My method of operation is to make an incision through the middle line large enough to admit my hand, and then I pass a piece of rubber drainage tube (without any holes in it) as a loop over the fundus uteri, and bring it down so as to encircle the cervix, taking care that it does not include a loop of intestine. I then make a single hitch and draw it tight around the cervix, so as completely to stop the circulation. I give the ends of the tube to an assistant, who keeps them well on the strain, so as to prevent the loose knot from slipping; the reason for this being that should there be any bleeding and any necessity for further constriction, I could secure this in a moment, without undoing any knot; the simplicity of this method greatly commends it. I then make a small opening in the uterus, and enlarge it by tearing with my two forefingers, seize the child by a foot and remove it. I then remove the placenta, and by that time the uterus has completely contracted and is easily drawn through the wound in the abdominal wall. The constricting tube will now probably require to be tightened, and the second hitch of the knot may be put on at the same time, and the work is practically done. Stuff a few sponges into the wound to keep the cavity clear of blood, and pass the knitting-needles through the flattened tube and through the cervix, and in this simple way a clamp of the most efficient kind is at once made; the uterus is removed about three-quarters of an inch above the rubber tube. The usual stitches are put in, the wound closed around the stump, which, of course, is brought to the lower part of the opening, and then the stump is dressed with perchloride of iron in the usual way.

The operation takes far less time to perform than it takes to describe, and as there is hardly any possibility of complications; it is one of the simplest operations that can be undertaken, and must always be pretty much the same; for this reason no one need be in any fear about undertaking it; for, in the absence of variation in the difficulties to be encountered, it differs entirely from any other operation in abdominal surgery. If performed before the patient has been mauled about by ineffectual attempts to deliver, its mortality will be no greater than that of ovariotomy, and the arguments in its favor against all alternative proceedings are: first, that it cannot be more dangerous to the mother than most of these are; that it saves the life of the child; that it prevents the unfortunate mother from again being placed in a similar condition; and it certainly has the great advantage over alternative proceedings having a similar object, that its great simplicity, as contrasted, for instance, with operations proposed by Thomas, Müller and Sänger, will make it possible for the country doctor, less experienced in surgery, to perform it without hesitation. These complicated and difficult proceedings may have their advantages, though I confess I do not see them, but they will be left for the hands of experienced specialists. The operation I have described will be the operation of emergency, when only the resources of general practice are at hand.

VULVO VAGINITIS IN YOUNG CHILDREN.—At the last meeting of the Académie de Médecine M. Ollivier drew the attention of the meeting to the vulvo-vaginitis of young children, and concluded from personal observations that it was contagious. In the month of July last he had two little girls in his ward suffering from the affection in question. At the end of three weeks several other children were similarly attacked. Believing that the transmission of the disease was effected by the nurses in charge, hands, sponges, etc., M. Ollivier ordered a rigorous attention to these matters, and soon the malady abated. As to the mechanism of the transmission, the speaker said he fully understood it, but not so as to the nature of the contagion. Was it a specific bacteria or was it one of those numerous microbes of suppuration? He would not venture to express an opinion on it as yet.—*Medical Press and Circular.*

MEMPHIS.—Charles Dudley Warner, in *Harper's Magazine* says: "Ever since Memphis took itself in hand with a new kind of municipal government, and made itself a healthy city, good fortune of one kind and another seems to have attended it. Abundant water it could get from the river for sewerage purposes, but for other use either extensive filters were needed or cisterns were resorted to. The city was supplied with water, which the stranger would hesitate to drink or bathe in, from Wolf River, a small stream emptying into the Mississippi above the city. But within the year a most important discovery has been made for the health and prosperity of the town. This was the striking, in the depression of the Gayoso Bayou, at a depth of 450 feet, perfectly pure water, at a temperature of about 62°, in abundance, with a head sufficient to bring it in fountains some feet above the level of the ground. Ten wells had been sunk, and the water flowing was estimated at ten millions of gallons daily, or half enough to supply the city. It was expected that with more wells the supply would be sufficient for all purposes, and then Memphis will have drinking water not excelled in purity by that of any city in the land. It is not to be wondered at that this incalculable good fortune should add buoyancy to the business, and even to the advance in the price of real estate. The city has widely outgrown its corporate limits, there is activity in building and improvements in all the pleasant suburbs, and, with the new pavements which are in progress, the city will be as attractive as it is prosperous.

"Climate is much a matter of taste. The whole area of the alluvial land of the Mississippi has the three requisites for malaria—heat, moisture, and vegetable decomposition. The tendency to this is overcome, in a measure, as the land is thoroughly drained and cultivated. Memphis has a mild winter, long summer, and a considerable portion of the year when the temperature is just about right for enjoyment. In the table of temperature for 1887, I find that the mean was 61.9°, the mean of the highest by months was 84.9°, and the mean lowest was 37.4°. The coldest month was January, when the range of the thermometer was from 72.2° to 4.3°, and the hottest was July, when the range was from 99° to 67.3°. There is a preponderance of fair sunny weather. The record for 1887 was: 157 days of clear, 132 fair, 65 cloudy, 91 days of frost. From this it appears that Memphis has a pretty agreeable climate for those who do not insist upon a good deal of 'bracing,' and it has a most genial and hospitable society."

THE SENSE OF SMELL.—The mystery surrounding the curious association of ideas likely to be aroused by unfamiliar odors has frequently puzzled scientific and semi-scientific writers and thinkers, and ingenious theories have often been put forward to account for this. Undoubtedly certain odors impress themselves strongly, and can be recognized again after a long interval; during the interval, however, no effort of will can reproduce them in any form, except as distinct notions of the pleasure or pain they originally excited. Mental reproductions of sounds or sights can be called up readily enough, the facility and order differing largely with individuals and with habit; but the sense of smell stands upon a lower level, in spite of its occasional delicacy of perception. Town life may, to a large extent, account for this. It necessitates a certain habit of indifference to unsavory odors. The every-day smells in our streets lead us to tolerate or disregard many inevitable opportunities of cultivating the sense at the expense of comfort. On the other hand, there is little doubt that by undue employment of powerful condiments and of tobacco the sense is liable to be greatly impaired. A contemporary, in urging the recognition and cultivation of this "neglected sense," considers that a nomenclature for smells, such as we have for colors and sounds, would help matters by enabling us to put upon record and compare our impressions. At present we flounder about with more or less fanciful comparisons. Chemists and pharmacists have agreed that it is legitimate and useful to speak of camphoraceous, terebinthinate, or alliaceous odors, and even occasionally refer to singeing or burnt feathers. It is difficult to imagine upon what basis a new nomenclature for smells can be developed. Rapidity of vibration and the spectrum have helped the higher senses to a certain extent, but even now chemists are far from adopting the cold precision of the spectrum as an exact measure of the colors to be expected with various reagents. A new nomenclature, if it can be devised upon a sound basis, would doubtless be useful, and might help to save the sense from total extinction according to the doctrines of evolution; but meanwhile many of the similes employed for some organic compounds lend an idea of freshness and pleasure with which we are reluctant to part.

THE USE AND ABUSE OF MILK.—It was Fothergill, we think, who first called attention to the abuse of milk as an article of food, or rather we should say, to using it as a beverage instead of as a food. The truth of his views on this subject have lately been forcibly demonstrated to us in the persons of several cases of acute rheumatism. They had all been large drinkers of milk and their temperatures were over 103, and the pain was excessively severe when they came under treatment. By putting them on a diet of thin water gruel, suitably flavored, and a mixture containing ten grains of salicylate of soda, to be taken in half a tumbler of weak lemonade every two hours until relieved, in every case the symptoms had almost disappeared within thirty-six hours; and the urine which had been dark and loaded at the same time became clear. It seems to us that in rheumatic cases the blood is in a condition of saturation with water, coming from the defective combustion of nitro-genous food which ought to, but does not, reach the ultimate stage of urea, and it only requires a local slowing of the circulation, or a temporary cooling of an extremity, in order to have a deposit of the sharp pointed crystals in the joints, ligaments or muscles, which causes such excruciating pain. It is a fact proved by experiment that certain articles of diet increase the excretion of uric acid; these are milk, cheese, meat and beer, the latter acting probably by preventing other food from being burned, as it burns much easier than they. Some great medical authority of the old school once said that the best cure for rheumatic fever was six weeks in bed, and as the patient was generally put on an exclusively milk diet, that may perhaps have been the explanation.

The idea is general among people that the more milk they could drink the better for their health; and so they drink two or three tumblersful of milk as though it were water. The moral of all this is that though milk is one of the best and most nutritious of foods, being indeed the only perfect food, it is the worst possible beverage, being already saturated, and therefore being utterly useless for the purpose of washing out effete matter from the blood.—*Canada Med. Record.*

MEDICAL NEWS AND NOTES.

ELECTRIC PROSTRATION.—Several cases of this new malady are reported from Creusot, France. It affects workers under electric light. The light exceeds 100,000 candle power, and it appears that it is this excess of light, and not the heat, which produces the nervous symptoms. A painful sensation in the throat, face, and temples is first noticed, then the skin becomes coppery red, and irritation is felt about the eyes; much lachrymation ensues, and these symptoms then disappear, whilst the skin peels off in five days. The effects are comparable to those produced by walking over fresh snow in the sunlight, and may be regarded as a sort of "sun-burning."—*Lancet.*

AN absent-minded doctor recently took unto himself a wife. During the marriage ceremony when she held out her hand for the ring, he felt her pulse and requested to see her tongue.

DR. A. JACOBI declares that the addition of salt to cow's milk will prevent its coagulation into hard masses by either rennet or gastric juice.

OBLITERATED SCALE OF CLINICAL THERMOMETERS.—Many students and practitioners are inconvenienced by the scale on their clinical thermometers becoming obliterated. The *Physician and Surgeon* finds it a good way to renovate them with the American copying pencils so much used by students. To use them the scale is to be first moistened, then the pencil is to be well rubbed in. When it has become dry the superfluous coloring matter may be removed by a soft cloth. When the roughened markings of the scale will be found to retain the color.

THE *Lancet* says that a high legal functionary, at an inquest upon the body of an infant, stated that "it is the invariable practice to let illegitimate children die."

DR. LEFFMAN holds that it should be forbidden by law to sell anything such as medicine or food, intended for human consumption, the ingredients of which are kept secret.—*Microscopical Bulletin.*

A NERVOUS-LOOKING MAN went into a store the other day and sat down for half an hour or so, when a clerk asked him if he could do anything for him. He said no, he didn't want anything. He went away and he sat there for half an hour longer, when the proprietor went to him and asked him if he wanted to be shown anything. "No," said the nervous man, "I just want to sit around. My physician has recommended perfect quiet for me, and he says above all things I should avoid being in crowds. Noticing that you did not advertise, I thought that this would be as quiet a place as I could find, so I just dropped in for a few hours' isolation." The merchant picked up a bolt of paper cambric to brain him, but the man went out. He said all he wanted was a quiet life.

HOT AIR INHALATIONS IN PHTHISIS.—Two German observers, or, to speak more correctly, two observers in Germany, have, indepently of one another, been engaged in investigations on the bactericidal property of heated dry air, and on the methods of utilizing this property for the practical treatment of phthisical patients. Dr. Weigert, who appears to be an American living in Berlin, finding that tubercle bacilli outside the body die at a temperature of 41° C., and are adversely affected by one of 38°, had constructed an apparatus for the inhalation of heated air, and commenced to make trials on phthisical patients in the early stage recommended to him by other medical men, he himself not being in practice. At first a temperature of from 40° to 60° C. was employed, the air for inhalation being quite dry. This temperature was gradually raised as high as 80° C. The patients bore this hot dry air exceedingly well, and continued to inhale it for three or four hours a day during a month, the only unpleasant effects produced being hyperæmia and dryness of the mucous membrane. The general effects are represented as having been remarkable, patients who had been falling away picking up strength and becoming quite robust, the physical examination showing at the same time that the dullness and râles had perceptibly decreased. The bacilli in the sputum, which had been very numerous, rapidly diminished in number, and finally disappeared altogether. These observations were confirmed by several other medical men. Dr. Halter, of Lengerich, Westphalia, seems to have gone even further than Dr. Weigert, he having himself inhaled, and caused patients also to inhale, dry air heated to 190° C., with satisfactory results.—*Lancet.*

PHOTOGRAPHY OF THE MALE BLADDER.—We hear that Mr. Harry Fenwick, and Mr. Pearson Cooper, of the London Camera Club, have been working for some considerable time at photography of the human bladder. Various obstacles were in turn recognized and overcome, and they have now so far perfected their vesical camera and method as to obtain good negatives of the interior of "dummy" and dead bladders. They hope before very long to describe a method of recording the appearances and progress of diseases of the living bladder. The negatives are taken *per urethram* through a tube of 23 French calibre (11 or 12 English).

BRAIN SURGERY TWO HUNDRED YEARS AGO.—February 2, 1667. Talking, and among other things of the Prince (Rupert) being trepanned, which was in doing just as we passed through the Stone Gallery, we asking at the door of his lodgings, and were told so. Went with others into the House, and hear that the work is done to the Prince in a few minutes, without any pain at all to him, he not knowing when it was done. It was performed by Moulins. Having cut the outward table, as they call it, they find the inner all corrupted, so as it come out without any force; and their fear is that the whole inside of his head is corrupted like that, which do yet make them fear for him; but no ill accident appeared in the doing of the thing, but all with all imaginable success, as Sir Alexander Frazier did tell me himself. April 3, 1667. This day I saw Prince Rupert abroad in the vane-room, pretty well as he used to be, and looks as well, only something appears to be under his periwig on the crown of his head.—*Pepys' Diary.*

DO WHITE BLOOD CORPUSCLES BREAK DOWN DURING COAGULATION?—The generally accepted theory, as propounded by A. Schmidt and others, is that coagulation is the direct result of death of the blood, especially that of the white corpuscles, which in dying produce a ferment which, acting on certain constituents of the blood-plasma, produces fibrin. Schmidt maintains that there are two kinds of corpuscles, one kind breaking down during coagulation, the other persisting. It is also claimed by this school that enormous numbers of colorless corpuscles are dissolved as soon as the blood is shed from an artery. Haycraft and Carlier are certain of the following facts, namely, that some at least of both the fine and coarse varieties of white blood corpuscles are always found alive after coagulation, which occurs in their own blood never later than five to ten minutes after it has been shed. They have drawings of moving cells in blood which had clotted two days previously.

THE *Lancet*, August 25, 1888, says: A French medical man recently prescribed one gramme of sulphate of atropine instead of a centigramme, the error resulting in the death of his unfortunate patient. The doctor and the chemist who dispensed the prescription have been found guilty of homicide through imprudence, and the former was condemned to pay 600 francs as compensation, and the latter to five days' imprisonment and the payment of 400 francs.

BOSTON papers tell of the "singular death, at Danvers, of Miss Emma Felch. She was taken ill some months ago, and, from the fact that her mother died of cancer, she became possessed with the idea that her sickness was from the same cause. Her physicians could find no indication of cancer, but she asserted that she had one and located it. She refused food saying it distressed her. At her desire, after she died, an autopsy was held, and no cancer could be found. It was decided that her disease was purely sympathetic."

TO REMOVE FOREIGN BODIES FROM THE THROAT.—Dr. Beveridge, of the British Navy, says that for the removal of foreign bodies in the throat, such as pieces of meat etc., a simple mode of relief is to blow forcibly into the ear. This excites powerful reflex action, during which the foreign body is expelled from the trachea. The plan is not a new one, but it is easy of execution and should be remembered.

HYMEN UNRUPTURED AFTER LABOR AT FULL TERM.—Mr. Taylor reports a case (*Brit. Med. Jour.*) in which a woman was delivered of a child at full term and the hymen was left intact. He thinks the case very interesting from a medico-legal point of view, as illustrating cases in which the non-rupture of the hymen should not be taken as a sign of non-intercourse, rape, etc.

FATAL ERROR OF A DRUGGIST.—It is reported from Jersey City, N. J., that a boy four years old has died recently as the result of having administered to him a medicine intended for another person. A prescription given for the boy was taken to a drug store and left to be compounded. About that time another prescription was sent to the drug store with the same instructions as to its being delivered. The two prescriptions were of a widely different nature, one of them being highly poisonous.

HYGIENE OF THE EYES.—Dr. Lincoln, of Boston, in the *Annals of Hygiene* formulates the following rules to be observed in the care of the eyes for school work:

1. A comfortable temperature, and especially let the feet be warm and dry.
2. Good ventilation.
3. Clothing at the neck loose; the same as regards the rest of the body.
4. Posture erect; never read lying down or stooping.
5. Little study before breakfast or directly after a hearty meal; none at all at twilight or late at night.
6. Great caution about study after recovery from fevers.
7. Light abundant, but not dazzling.
8. Sun not shining on desk, or on objects in front of the scholar.
9. Light coming from the left hand, or left and rear, under some circumstances from in front.
10. The book held at right angles to the line of sight, or nearly so.
11. Frequently rest by looking up.
12. Distance of book from the eye about fifteen inches.—*N. O. Med. and Surg. Jour.*

AT the meeting of the County Medical Association, January 21, 1889, the following officers were elected; Dr. C. L. Wood, President; Dr. G. T. Harrison, Vice-President: Dr. P. B. Porter, Rec. Secretary; Dr. I. H. Hinton, Treasurer; Dr. A. D. Ruggles, Cor. Secretary; Dr. S. B. Wylie McLeod, Mem. Executive Committee.

ONE of the interesting features of the approaching French exhibition is to be a model of the earth, made on the scale of one-millionth. It is to be accurately constructed, and will rotate on its axis. Even on this scale it will be an enormous object, nearly 21 feet in diameter. —*Scientific American.*

DR. THOMAS OPIE was, at the meeting held October 9th, 1888, elected President of the Maryland Obstetrical and Gynæcological Society for the ensuing year. This is a fitting recognition of the ability of one of the most accomplished obstetricians in the Monumental City, and we feel confident that the continued prosperity of this useful Society is assured under President Opie's administration.—*Buffalo Medical and Surgical Journal.*

A TOAD IN SOLID COAL.—The correspondent of the *Colliery Guardian* reports a case, which, if true, must be interesting to geologists. In the Coleford district of the Forest of Dean a small colliery has been opened, and while a collier was engaged in breaking up a fall of block coal, he found a toad in the centre. It seemed firmly embedded in the coal, and it was alive. Its form was imprinted upon the face of the mineral, and the animal is still living. The incident has occasioned much interest in the neighborhood.

IN a London hospital, a woman, æt. 68 years, with scirrhous cancer of both breasts had them both removed simultaneously by two surgeons one on each side of the table. The whole operation lasted forty-five minutes and after a short time she was discharged well.

DEATH from sea-sickness is a rare occurrence, but there was recently a case on the steamer "Dumara Castle," while running from Tyree to the Clyde. The patient was a little girl, æt. eight years. She was taken with severe sea-sickness, which culminated in a convulsive fit, in which the patient died, though able medical assistance was rendered.

POWER OF THE IMAGINATION.—Dr. Durand, wishing to test the effects of the imagination on health and disease, experimented on a hundred patients, to whom he gave a dose of sweetened water. Fifteen minutes after he entered, apparently in great excitement, and announced that he had made a mistake, having administered a powerful emetic, and he directed that preparations should be made accordingly. Eighty out of the hundred patients were thoroughly ill, and exhibited the usual results of an emetic.

CONSULTATION BY TELEGRAPH.—The Canadian Pacific Railway Company's telegraph was recently brought into service in a way that not only afforded a good illustration of the extent of the system, but furnished a unique example of the possibilities of modern science. Lord Ennismore, heir to the earldom of Listowell, is lying at the point of death in the hospital at Victoria, B. C., with typhoid fever. Through the aid of Sir Donald A. Smith, who is now in London, a telegraph circuit was formed from London to Victoria by the Mackay-Bennet Cable and Canadian Pacific Railway telegraph, and Sir Andrew Clarke, the distinguished London physician, was placed in direct consultation with Dr. Hannington in Victoria. A conversation lasting three hours, concerning Lord Ennismore's condition, was carried on. An unbroken circuit was worked from Victoria to the cable office in New York, where the telegrams were repeated in London. Replies were received in three and four minutes.

THE THERAPEUTIC VALUE OF HOT WATER.—Hot water is always in great favor in obstetric practice. There is probably no better application in the case of abundant metrorrhagia than vaginal injections of very warm water. In medical practice the uses of hot water are steadily increasing. Tripier, of Lyons (*Rev. Gen. de Clin. et de Ther.*), recommends bathing with water at 45° C., and even at 48° C., to ease the pain of saturnine colic, the rectal or vesical tenesmus of tabes, and also of dysentery. In hæmoptysis, hot infusions will succeed much better than cold or iced drinks. It is equally useful in vomiting, which may often be arrested in the same way when it has resisted the use of ice internally and externally.—*L' Union Médicale du Canada.*

MIXED ANÆSTHESIA.—Obalinski of Cracow speaks highly of anæsthesia induced by a combination of chloroform and cocaine. He maintains that when anæsthesia is induced by chloroform, it can be kept up by the administration of cocaine. The following is the method followed: after giving chloroform for a few minutes, until commencing general anæsthesia is noticed, a quantity of cocaine, varying from three-fourths to one grain, is injected into the tissues that are to be operated on. After the injection of cocaine no further chloroform is administered. After this method of anæsthesia, such operations as amputation of the leg and thigh and herniotomy have been performed. It is claimed for this mixed anæsthesia that it is less dangerous than either pure chloroform or a mixture of chloroform and ether. Obalinski followed the above method in twenty-four cases, and always with satisfactory results.

A NEW USE FOR ETHER DURING ANÆSTHESIA.—Very frequently during the early stages of the administration of an anæsthetic the patient "forgets to breathe" even before the ability to perceive peripheral irritation is lost. Even later in anæsthesia, when the breathing suddenly ceases we are accustomed to use cold water externally and to slap the patient with wet towels.

Such measures are generally called for hurriedly, and it is not at all uncommon for an exasperating delay to occur before the water arrives. The ether is always at hand, however, and I have found that in a large number of instances, both in man and the lower animals, the free use of ether poured upon the belly causes so great a shock by the cold produced by its evaporation as to cause a very deep inspiration, which is often followed by the normal respiratory movements. This is, of course, a simple procedure, and one which has probably been used by others, but I have never seen it so employed.—H. A. HARE, M.D., Demonstrator of Therapeutics, University of Pennsylvania, *University Med. Magazine*, Nov., '88.

EDITORIALS.

FRIEDLÄNDER'S PNEUMO-COCCUS AS A CAUSE OF OTITIS MEDIA ACUTA.—Prof. Zaufal, of Prague, before the "Verein Deutscher Aerzte," read a communication on the probability of Friedländer's pneumo-coccus being an etiological factor in the production of otitis media acuta. As long ago as 1885 he had been able to show the presence of this microbe in the discharge from an ear affected with acute catarrhal inflammation, in which paracentesis of the drum had been performed. Weichselbaum of Vienna has found that this coccus may first produce rhinitis and consecutively acute inflammation of the middle ear, periostitis of the mastoid, with cellulitis of the neck and general septic infection. He also found the coccus in the inflamed tissue of the membrana tympani. Zaufal has recently inoculated the tympanic cavity of guinea-pigs with pure cultures of this microbe with positive results. The inoculations were followed by acute catarrhal inflammation of the cavity.

One animal whose tympanic cavity had been thus inoculated, developed lobar pneumonia in both lungs. The pneumo-coccus was found both in the lungs and in the pneumonia secretion of the animal.

For the enthusiastic bacteriologist and the so-called practical man who declines to admit the modern advances of science in the direction of determining etiology of disease, the experiments briefly narrated above have a certain interest. Let it be borne in mind that all which has been stated above is that the pneumo-coccus of Friedländer was found to set up the pathological process known as otitis media acuta, it was not stated that this germ has been found to be the sole cause, the specific cause, of this form of inflammation. It has already been shown that suppuration may be caused by several germs, but let it be remembered that these germs are simply different arrangements of cocci—*i. e.*, in different kinds of groups. If this be so, and if each grouping be considered as forming some individual entity, we shall be compelled to admit that suppuration has no specific cause, except in so far as the essential constituent of the groups is concerned.

For instance, we find that the staphylo-coccus pyogenes, aureus, albus and citreus, also the streptococcus pyogenes when inoculated into the animal tissue may produce suppuration. No other is found to do this. It seems therefore at present that the power of producing suppuration lies in the family of the cocci, and only in certain arrangements of this species of germ. The kinds of suppuration with which we have to do are the suppuration produced by the staphylococcus aureus, albus and citreus, that produced by streptococcus pyogenes, gonorrhœal suppuration and the suppuration of otitis media.

While it is recognized that suppuration which for the sake of convenience we call *surgical* suppuration, may be due to a number of germs, it is, perhaps, the unanimous belief that only one germ, the gonococcus can set up the suppurative process known as gonorrhœa.

These facts have a bearing upon the results of Zaufal and Weichselbaum.

We find, according to these observers, a coccus producing an inflammation in the mucous membrane of the middle ear, which may become ultimately a suppurative one. We find the same coccus causing pneumonitis in the lung tissue, a process which is very rarely suppurative. An interesting fact in this connection is found in the peculiar predilection which the gonococcus has for the mucous membranes of the urethra and of the eye, for this germ will not cause on other mucous surfaces, clinically speaking, the same pathological process which it causes in the eye and urethra. It seems quite probable then that the pneumo-coccus of Friedländer may cause otitis media; as to whether it is the specific cause, further experimentation and clinical observation will determine, if it can be determined.

It seems more rational to suppose that the pneumo-coccus may set up in the middle ear a catarrhal inflammation, not suppurative similar in character to that which it sets up in the lungs. When the drum bursts, owing to increased pressure from within or when paracentesis is performed, the entering air brings with it pyogenetic germs and the suppurative is then substituted for the catarrhal process. Of course if pyogenetic germs be introduced through the Eustachian tube, suppuration might supervene before the drum bursts. We believe that catarrhal inflammation of the middle ear may be produced by a variety of conditions.

It must not be forgotten that the peculiar fœtid odor of suppurating ears is due to the growth in the pus of the bacillus fœtidus. A pure culture of this germ in a gelatine tube has entirely the characteristic odor of a suppurating ear. In connection with the observations of Zaufal and Weichselbaum let us recall the significant fact that rhinitis and otitis media are frequent complications of pneumonia and of measles, which is often attended by broncho pneumonia.

A NEW METHOD OF ENUCLEATION OF THE EYEBALL.—Dr. Coppez, of Brussels, in a recent issue of *La Clinique*, describes a method of enucleation which, he claims, is easier and simpler than the methods of Bounet and Tillaux, which are at present in vogue. The peculiar merit which he claims for his operation lies in the fact that three instruments only are necessary to accomplish it—a curved needle, scissors and speculum. The operation is performed as follows: The speculum having been introduced, a curved needle armed with thread is thrust transversely through the cornea. The ends of the thread are tied, and the operator catches the loop over one of the fingers of his left hand. By gentle traction the eye is now pulled slightly outwards and the conjunctiva around the cornea is dissected up close to the latter. As further gentle traction is made the recti muscles come into view. These are divided close to the sclera. The oblique muscles are now seen to be distinctly exposed, and they also are divided close to the sclera. The connective tissue connections between the capsule of

Tenon and the ball are now broken up by burrowing with the scissors. When the blood has been wiped away the optic nerve can be seen, and can be cut much further back than in the operation of Bonnet and Tillaux. It is claimed also that the hæmorrhage is less when the operation is performed after this manner.

The only possible objection which Dr. Coppez thinks can be found in his method is the possible escape of aqueous humour through the needle holes. This, however, is no valid objection, since not enough fluid could be lost in this way to cause the globe to become entirely collapsed.

It should be the object of the surgeon in enucleating an eye to preserve as much of the orbital tissue as possible in order that a good stump may be left for the wearing of an artificial eye. The ball should therefore be stripped of all the tissues connected with it. With reference to the optic nerve, however, this should be cut about an eighth of an inch behind the ball, as a rule, and at least at this distance from the ball in cases of enucleation of the globe for iricyclitis, whether it be sympathetic or primary.

After all the muscles have been divided in the operation at present in use, it is necessary for the operator to pass his scissors, closed, as it were, in the dark, down into the orbit behind the ball. When the nerve is felt by the point of the closed blades, it is customary to open them and cut blindly.

No one can tell how far behind the ball he has cut an optic till the ball is in his hand. It may be remarked here that it is far better to insert the scissors from the nasal side and to cut toward the temple than vice versa, since if the cutting be done from the outer side inward, an incautious or accidental over-amount of force may drive the scissor's point through the thin plate of the os planum of the ethmoid bone into the ethmoidal cells.

Apparently, the method of Coppez will permit of greater accuracy in the cutting of the optic nerve.

This modification of the old operation of enucleation commends itself to us in many particulars, and is worthy of being put into practice.

OUR esteemed contemporary, the *New Orleans Medical and Surgical Journal*, in its editorial remarks under the caption "A Medical Examining Board," animadverts upon the attitude of the University of Virginia toward the Virginia State Examining Board. "About the only opposition or harsh criticism directed to it (*i. e.*, the State Examining Board) comes from the State of Virginia itself, and perhaps this will not prove to be a move inimical to the Board when the circumstances are more fully known than at present. This opposition, if such it must be, is in the shape of an endeavor on the part of one of the schools, the University of Virginia, to exempt its graduates from examination."

We beg to assure our contemporary that this is a great mistake and does the University a great injusticc. The policy of the University both in regard to its graduates in law and medicine has just been the opposite. It has always desired that its graduates should be examined by the State and not be exempt.

THE paper published in this issue on the subject of YELLOW FEVER is the production of one of the most learned scientists of the age—Dr. Paul Gibier, of the Faculty of Paris. He has been entrusted by the French government with the mission to study yellow fever in Havana, 1887–88, and in Florida, 1888–89.

He is patiently and earnestly studying the subject, and making experiments which will probably result in our complete exemption from yellow fever.

His work is of supreme interest to the whole country, as such a scourge carries off our Southern people by the hundred and injures incalculably the commerce of the North. Dr. Gibier has been identified with scientific research for many years, and was decorated by the French government with the badge of the Legion of Honor for his valuable researches during the last epidemics of cholera in Southern Europe.

RECEPTION IN HONOR OF DR. WILLIAM GOODELL, OF PHILADELPHIA.—On the evening of January 12th, Dr. Paul F. Mundé of this city, invited a large number of medical men to meet Dr. William Goodell, of Philadelphia. The reunion was a most delightful one and will long dwell in the memory of those who had the rare pleasure of participating in its enjoyment.

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ORIGINAL ARTICLES.

ARTICLE I.

INVERSION OF THE UTERUS.

By GEORGE TUCKER HARRISON, M.A., M.D.

Inversion of the uterus may be defined as a dislocation by which the inner wall is turned outward, the external wall becoming the inner, the highest point becoming the deepest, while the external and upper convex part becomes a pocket within and below. As the consideration of recent inversions occurring during the puerperal condition belongs especially to a work on obstetrics, we shall study only chronic cases and those inversions which owe their origin to tumors seated in the uterine wall.

Etiology and Mechanism.—For the explanation of the occurrence of this anomaly several co-operating causes must exist as *predisposing*, which are essential conditions for its production. The first is *relaxation* or *diminished resistance* of some part or the whole of the walls of the uterus, and the second *dilatation of the uterine cavity*. It is obvious that the uterus after childbirth must exhibit a state of things most favorable for the occurrence of this accident. Hennig found, in looking over the literature of the subject, twenty-three cases of inversion in which the placenta had its seat in the fundus, and thence regards that situation of the placenta as an effective exciting cause. In this view he was preceded by Crosse, who in his well-known classical essay on this theme maintained that, besides partial relaxation of the uterus, attachment of the placenta to the fundus was the most frequent cause of this disease. If the placenta is still adherent, and an attempt is made to remove it either by pressure from above or by traction from below, an inversion may originate in a relaxed condition of the uterus, because the place of attachment of the placenta is capable only of incomplete contraction. Formerly, when the obstetrical art was less developed than now, this accident was produced by the attendant pulling upon the cord. And here it may be observed that the rarity of this anomaly in well-managed hospitals may be shown by the fact, stated by Dr. Madden, that in the Rotunda Hospital in Dublin, from 1745 to 1868, 190,883 women were accouched, and in this time only a single case of inversion came under observation; and by the further fact, to which Dr. Carl Braun adverts, that in the Vienna Lying-in Hospital, from 1849 to 1878, among 250,000 puerperal women, not a single case of complete inversion occurred. Uterine inversion may also be produced by the rapid filling of the relaxed uterine cavity with a large quantity of blood immediately after the birth of the child, when abdominal pressure operates on the uterus during the acts of vomiting or straining in the standing or sitting posture. When that anomaly exists which Rokitansky called "paralysis of the placental site," a partial inversion may take place, the part of the uterine wall corresponding to the placental site being depressed toward the uterine cavity. Like Fritsch, I have observed this in a case of post-partum hæmorrhage. Contractions of the portions of the uterine wall which are not depressed, combined with intra-abdominal pressure, force the depressed part deeper into the uterine cavity. When the fundus attains to direct contact with the internal os uteri, it produces an irritating effect such as would be evoked by the child's head or a tumor. The most intense uterine contractions are then brought into play, and the patient co-operates by violent bearing-down efforts until the inverted fundus is forced through the external os uteri into the vagina. Matthews Duncan, who has contributed a very important paper on the production of inverted uterus,* describes four kinds of uterine inversion which may occur: 1. "Spontaneous active uterine inversion"—the kind we have just described. 2. "Artificial active uterine inversion," in which "the inversion of the paralyzed part is effected by pressure from above or by pulling on the cord or other interference from below." 3. "Spontaneous passive inversion occurs in cases of paralysis or inertia of the whole uterus, the organ being large, its walls lax and capable of being inverted by little force." "Bearing down" he regards as the exciting cause in such a condition of the uterine tissue. 4. "Artificial passive uterine inversion." Here foreign force replaces the bearing down.

A number of cases have been recorded which seem to demonstrate that inversion may originate during the puerperium days, or even weeks after the birth of the child. From *a priori* reasoning, such a possibility has been contested by some authors. Says Beigel:† "We cannot subscribe to the view of those authors who assert that a spontaneous inversion can develop several days after childbirth. Dr. Cowan‡ communicates a case in which this accident occurred eighty hours after the accouchement, when the patient sprang suddenly out of bed. Similar observations have been made by others. After eighty hours, however, the uterus has already so far contracted that the origin of an inversion, even under favorable conditions, cannot be well conceived. On the contrary, the assumption does not seem forced that a depression already existed, and that it may be heightened by traumatic influences, by excesses such as the one mentioned, and a complete inversion be produced." These objections, however, cease to carry conviction if we bear in mind that the uterus often remains flaccid for a considerable time during the puerperal state, and, on the other hand, that internal hæmorrhage may cause it again to enlarge and become relaxed. Under such conditions a late puerperal inversion may occur when an efficient exciting cause exists. But in vindicating the possibility of the production of such an inversion, I do not wish to be understood as denying the fact that the explanation given by Beigel may not be the true interpretation of some of the cases coming under this category.

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* "Mechanism of Natural and Morbid Parturition," Edinburgh, 1875, p. 302.

† Die Krankheiten des Weiblichen Geschlectes," ii., p. 322.

‡ *Edinburgh Monthly Journal*, June, 1862.

The mechanism invoked by Dr. Isaac E. Taylor to explain the production of certain cases of inversion cannot be omitted here. According to this author,* by a mechanism analogous to that of prolapsus vaginæ, an inversion may take place in consequence of contractions of the fundus and body, the cervix being first rolled outward and doubled, the body following, and finally the fundus coming down. Dr. West† remarks concerning a class of cases of inversion that "this accident has been brought about not by simple want of contractility of the organ, but by the irregular and unequal contraction of its different parts, a state of comparative relaxation of the os and cervix co-existing with violent action of the fundus." In a foot-note he further observes: "This mode of production of inversion of the womb during labor, first recognized by Saxtorph ("Gesammelte Schriften," 8vo., Kopenhagen, 1804, p. 301), has been fully and ably set forth by Dr. Radford (*Dublin Journal* for 1837, Nos. 34 and 35), and is now generally received as a frequent, if not the most frequent, mode in which it is brought about." A somewhat similar view is expressed by Klob.‡ Tyler Smith maintained that this accident could occur by irregular action of the fundus, which carried this part into the uterine cavity, where the introcedent part was seized by an hour-glass contraction and propelled through the lower part of the cervix, then in a state of inertia. This theory, it will be observed, differs but little from that of Dr. Radford, while its similarity to Dr. Taylor's views will be at once apparent. As Matthews Duncan,§ however, remarks with reference to Tyler Smith's theory: "No action, regular or irregular, can produce introcession of a part of the uterine wall. Before active uterine inversion can be begun such introcession must take place. Some part of the body of the uterus must be in a position to be seized by the remainder —must become, in a sense, a uterine content, acting just as a polypus does in cases of inversion in connection with this disease." In this view I heartily concur.

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* "On the Method of Spontaneous Active Uterine Inversion." *New York Medical Journal*, May, 1872.

† "Diseases of Women," West and Duncan, London, 1879, p. 221.

‡ Pathological Anatomy of the Female Sexual Organs," New York, p. 103. Trans. by Kammerer and Dawson.

§ *Loc. cit.*, p. 292.

Tumors which have their seats in the uterine wall are also capable of evoking inversion.* These tumors are generally myomata, either submucous or interstitial. Sarcomatous growths are less often observed under such circumstances. An erroneous statement that has been copied from one text-book to another, as if it were a well-established fact, it may be well to criticize here. This error is the assumption that when an inversion is produced by an intra-uterine growth we may expect to find a pedunculated fibrous polypus as the efficient cause; the truth being, on the contrary, that in such a case the inversion is due to an interstitial or submucous myoma *as a rule*, a sarcomatous growth as the cause of an inversion being a rare phenomenon.

The mechanism of the production of an inversion by an intra-uterine tumor is a question which has been much discussed. Scanzoni,† who brings to the study of this theme a finely philosophical spirit, gives the following explanation. "Sufficient proofs," he remarks, "are at hand to show that inter-parietal fibroids in their development quite frequently cause the separation of the muscular fibres of the uterine wall investing them, or their fatty degeneration—nay, that this part of the uterine parenchyma even appears completely atrophic. . . . . But if the portion of the uterine wall enclosing the fibroid tumor becames atrophic, or for any other reason less contractile than the remainder of the organ, and if the tumor already projects into the uterine cavity in consequence of the contractions excited by its presence, the tumor is forced more and more deeply down toward the orificium internum; the relatively relaxed wall in which it is imbedded is dragged after it, and in this way is depressed. On further continuance of the contractions the cervical canal opens, lets the tumor descend through it, and so, as is easily intelligible, the depression of the site of the tumor, which had existed in the beginning, increases to a more or less inversion of the entire organ." A confirmation of his views Scanzoni finds in the circumstance that he never discovered in long pedunculated fibrous polypi depending in the uterine cavity or in the vagina, at the point of inversion of the tumor, the above-described condition favorable to the origin of an inversion, but that point appeared perceptibly thickened and provided with a rich muscular layer. Says Virchow:‡ "We scarcely ever find a thinning of the walls in rather large polypi.

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* *Virginia Medical Monthly*, September, 1885.

† "Lehrbuch der Krankheiten der Weiblichen Sexual Organe," von Dr. F. W. von Scanzoni, Wein, 1875, p. 144.

‡ *Die Krankhaften Geschwülste*, Bd. iii., p. 166.

Even when quite large polypous myomata produce a dilatation, by which the uterus appears as large as it does in pregnancy; the wall is yet regularly thickened." Werth* believes that in view of the clinical facts, still further auxiliary factors must be assumed, and, moreover, that one or even both of the factors mentioned by Scanzoni (atrophy of a portion of the uterine wall and uterine contractions) may be wanting, and in their place others can be effective. These he finds in an abnormally relaxed condition of the uterine wall, the weight of the tumor which opens the lower uterine segment and cervix, and intra-abdominal pressure. By this mechanism are explained the cases in which inversion is found with no preceding phenomena whatever to suggest its existence or to determine the point of time of its development.

Pathological Anatomy. — It is obvious, from what has been said in the etiology, that there must be different degrees of inversion, from a simple depression to the complete form, or, in other words, that the process may be arrested at any one of the stages in its developmental progress, and remain stationary for an indefinite time. As to what is the best classification of the different degrees of inversion, much discussion has taken place. The simplest division is that of Crosse: it has been adopted by Barnes.† He assumes three degrees: 1st, *Depression*: the fundus or placental site falls inward, projecting in the cavity of the uterus. 2d, *Introversion* or intussuception; so great a part of the fundus falls in that it comes within the grasp of the portion of the uterus into which it is received. In the extreme form of this degree the fundus attains the os uteri, through which it can be felt like an intra-uterine polypus. The third degree he designates *perversion*, in which the fundus passes the os uteri. As simple as this classification appears, it by no means meets the requirements of clinical observation. A better one is that which discriminates three degrees according to the following division: 1st, *Depression*, in which the fundus is still above the external os uteri. Under this head belong cases of partial inversion. 2d, *Inversion*, in which the fundus has passed through the external os uteri, but still lies within the vagina. 3d, Prolapse of the inverted uterus, characterized, as its name implies, by the prolapse externally of the inverted uterus. The first degree does not often come under medical cognizance, either because it spontaneously retrogrades or else goes on to the development of the second degree.

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* *Archiv für Gynäkologie*, Bd. xxii., Hft. 1, p. 71.

† "A Clinical History of the Medical and Surgical Diseases of Women," by R. Barnes, 2d ed., Phila., 1878.

When it is discovered it will be found usually to be due to a neoplasm which has caused the partial inversion. In the second degree the inverted uterus lies in the vagina, exhibiting the appearance of a roundish or pear-shaped body, sometimes considerably swollen, at other times not so large. To the touch it is soft, and often bleeds from any manipulation. The tumor becomes smaller above, and projects from the lips of the external os uteri by a pedicle. So close is the resemblance that no experienced gynæcologist can wonder that it has again and again been mistaken for a polypus. Especially in old inversions it is very difficult to decide as to whether it is a case of myoma or inversion, the consistence and superficial character giving no criterion by which to make the discrimination. The detection of the small depressions corresponding to the uterine orifices of the Fallopian tubes would decide at once upon the nature of the tumor, and should always be looked for in doubtful cases. The cervix does not take part in the inversion to any extent, the point of inflexion corresponding usually to the internal os uteri, and the lips of the external os embrace the pedicle in the form of a ring, which is easily recognizable by the examining finger. "It appears to us worthy of remark" observes Veit, "that in the cases of inversion noticed by us the cervix only took part in the invagination when the uterus descended into and before the vulvar orifice or was drawn down to that point." My observations confirm this statement. The anterior lip is much the more prominent of the two, or, in other words, the anterior part of the cervix, maintains its normal position to a greater degree than the posterior, the reason being, as Freund suggested, that the posterior wall is invested by peritoneum, while the anterior is imbedded in pelvic connective tissue. In recent puerperal cases the entire uterine appendages are drawn into the inverted cup or infundibulum, which is invested with peritoneum, perhaps also coils of intestine; but as involution goes on they gradually withdraw out of it. In chronic cases of puerperal origin and those evoked by neoplasms the relation of the uterine appendages to the infundibulum is the same: the opening is very small, and the ovaries do not lie in it, only the tubes and uterine ligaments leading into it. Hart and Barbour,* however, report an exceptional case "of six months' standing in which A. R. Simpson performed Thomas' operation before having recourse to amputation: the contracted ring just admitted the finger; an ovary was caught within it." Most authors concur in the statement that adhesions are rarely found between the peritoneal surfaces of the infundibulum, contrary to what might naturally be expected. Now and then, however, adhesions have been discovered, and it has even been stated that the lumen of the inverted pouch in a few cases was entirely obliterated (Schultze).

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* "Manual of Gynæcology," 3d ed., New York, p. 367.

In *the third degree* the inverted uterus lies outside of the vagina. The anatomical relations and dimensions of the pedicle, as well as those of the lips of the os uteri, may be the same as the tumor exhibited when in the vagina, but the cervix may also take part in the inversion, and the wall of the inverted uterus may go over in one continuous line into that of the vagina, or else the remnant of the vaginal portion may be represented by a narrow rim. When the prolapse is recent the surface is reddened or bluish, bleeds easily, and is coated with mucus. The surface may be smooth or else hypertrophied and exhibit polypoid proliferations. In the case of prolapsus of a decided extent the vagina must necessarily take part in the inversion, and consequently a cystocele formed by the bladder must be the result.

According to the studies of Ruge,* the mucous membrane of the uterus in inversions of the second degree shows decided changes; it is very much thinned, appears even to be absent in the most prominent places of the fundus; it loses its superficial epithelium, and is transformed by inflammatory processes into a tissue like granulation tissue. At the same time the glandular apparatus in it almost completely disappears, and only slight remnants are retained, irregularly distributed. Besides the disappearance of the mucous membrane and transformation of the still existing parts into granular tissue, a proliferation in the domain of the mucosa progresses alongside of the atrophy of the glandular apparatus, as is seen is cases of chronic endometritis occasionally. The fundal extremities of the glands proliferate, often deep down into the muscular tissue, while they perish above. In the third stage a formation of epithelium gradually appears on the surface, which may attain to a stratified squamous epithelium.

Symptoms and Course.—When there is only a partial inversion of the fundus of the uterus, or of one horn, or of a part of the lateral wall, the morbid phenomena are restricted at times to the appearance of a metrorrhagia which may be quite profuse. Usually, however, the patient complains, in addition, of a sensation of bearing down, and at the same time of pains in the hypogastrium and sacrum. The symptoms of acute inversion of the second or third degree, which has originated in the puerperal state, according to the scope of this work will not be discussed here. It is sufficient to remind the reader that the phenomena are composed of shock to the nervous system and brain anæmia, with more or less hæmorrhage from the placental site. These symptoms may be of so dangerous a character that the patient succumbs to them. If, however, she recovers from the first effects, as is the usual case, she has to run the risks of puerperal infection, and many are thus destroyed. Having survived these risks, the chronic form ensues. The main symptoms are hæmorrhage, tormenting bearing-down pains, difficult defecation, urinary disorders, pains in the sacrum, and a sensation of pulling in the abdomen. The hæmorrhage is at times very profuse, and is followed by a more or less profuse discharge, which may have an offensive odor. That the patient should exhibit all the evil consequences of anæmia need scarce be mentioned. That the symptoms, however, undoubtedly exhibit a very different degree of intensity is sufficiently proven by reference to the fact, abundantly attested by numerous observers, that the anomaly has been borne for many years by women whose sufferings were too slight to induce them to seek the aid of medical art. Nay, Charles Lee* describes a case of twenty-five years' duration which remained undiscovered during the entire time, although the patient suffered from time to time from hæmorrhage. Lisfranc, Meissner, Sims, and others have reported similar cases.

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* "Handbuch der Krankheiten der Weiblichen Geschlectsorgane," Dr. Carl Schroeder 8te Aufl., p. 211.

The symptoms produced by inversions which have been called into existence by neoplasms, as a rule, exhibit the same features as characterize the chronic forms of puerperal origin. The previous history, however, may be very different in the two classes of cases. It is worthy of mention that cases are on record in which the inverted uterus became gangrenous in consequence of the constriction produced by the changes in the cervix consequent upon involution. A very interesting case is mentioned by Martin† of an inversion caused by a tumor which he saw in the gynæcological division of his father: in this case extensive gangrene and sphacelous disintegration of the tumor and uterus had appeared in consequence of the constriction, which probably was in the cervix. According to Fritsch,‡ the fact that the tumor, which occasioned the inversion, often becomes necrotic and undergoes putrefactive decomposition is to be explained by the defective nutrition. The injuries to which it is necessarily subjected from its abnormal situation may also have their share in bringing about this result. Unrelieved, the subject of chronic inversion may succumb sooner or later to anæmia consequent upon this prolonged hæmorrhage, septicæmia, or peritonitis. Some few become tolerant of the condition and live on for years with more or less comfort. Such was the case with a patient who came under my professional care some years ago. After repeated ineffectual efforts on different occasions to accomplish the reduction of the inversion—on one of which occasions I had the valuable aid of Dr. John Byrne, of Brooklyn, and Dr. Bache McE. Emmet, of this city—the patient became so much better in health, in consequence of the relief from her most annoying symptoms, hæmorrhage and leucorrhœal discharge, that she declined further medical treatment addressed to the cure of the inversion.

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* *American Journal of Medical Sciences*, October, 1860, p. 340.

† "Pathologie u. Therapie der Frauenkrankheiten," A. Martin, Wien, 2te Aufl., p. 176.

‡ *Loc. cit.*, p. 266.

Diagnosis.—Ordinarily, it is not a difficult matter to recognize an inverted uterus when it exists. It bears a striking similarity, however, to a polypus, and at times neither the previous history of the case nor the appearance of the tumor will aid in dispelling the doubt in regard to the true nature of the morbid condition. It will then be necessary to have recourse to bimanual palpation, both *per rectum* and *per vaginam*, in order to ascertain if the uterus is in its ordinary position, or, on the other hand, if it is absent from that position. If the uterus is not to be felt, we may sometimes, under favorable conditions, be able at the place of depression to feel a kind of infundibulum or fissure, and at the same time the uterine appendages coming out of it and spreading on the side like a fan. And here I would remark that it is well to bear in mind that, as Scanzoni* has observed—and my experience confirms the correctness of his observation—"when an inversion exists the dislocated tubes and ligaments of the uterus form, at times, a tolerably thick and resistant cord, descending perpendicularly, which might easily be taken for the uterine body." The ovaries will be found situate not far from the opening of the inverted cup. The orifices of the Fallopian tubes should be the objects of careful search. Many observers have uniformly failed to discover them. C. Braun† remarks that his failure to find them was to be explained by the profuse hæmorrhages which were present in all of the cases which came under his observation. Veit, on the contrary, in two cases which he carefully investigated, found the orifices plainly recognizable as two fossæ, one on the right, the other on the left. A very valuable diagnostic sign is elicited by drawing the tumor downward, because by this manœuvre the os uteri around the tumor becomes softer, and finally disappears, the lowest part of the cervix taking part now in the inversion in consequence of the traction. In the case of a polypus the employment of traction downward makes the os uteri harder above, as the polypus is pressed into the os in form of a wedge and the latter is made more tense. The use of the sound may be of great value as an aid to diagnosis in difficult cases.

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* *Loc. cit.*, p. 148.

† "Lehrbuch der Gesamml." Gynākologie, 2te Aufl., p. 336.

In inversion it will be found that the pedicle of the tumor everywhere goes over immediately into the cervix, the sound meeting with an obstruction at the point of inflection all around, while, on the contrary, it will penetrate into the uterine cavity in the case of a polypus. Says Kiwisch: "The dimensions of the uterine cavity are elongated in the case of a polypus, and shortened in that of inversion, in the same proportion as the dislocation becomes more marked." Sir James Y. Simpson asserts that "if the sound cannot pass at any point around the tumor to a greater extent than about an inch, the uterine cavity may be considered as shortened by inversion." When the inversion has been evoked by a neoplasm, there is imminent danger that the neoplasm will be recognized, and the fact will be overlooked that its pedicle is formed by the partially inverted uterus; or, on the contrary, the neoplasm will be overlooked, as it may be when imbedded in uterine tissue, and the whole inverted fundus be mistaken for a myoma. The difficulties in the way of the diagnosis, in this class of cases, especially when the inversion is partial, are very great, and on account of the vast importance of the subject, I shall dwell on it at some length; moreover, it has not received the attention it deserves in most of our best text-books. An illustrative case which occurred in my private practice may, in the first place, emphasize the difficulties of diagnosis: it was narrated to the New York Obstetrical Society, Dec. 4, 1877: * "In August last (1876) I was consulted by Miss L——, æt thirty-eight years, and single, who gave this history of herself: She first commenced to menstruate at the age of sixteen. Menstruation recurred regularly, and there was no deviation from a healthy type, except that she suffered always more or less from dysmenorrhœa, until last spring, one year ago. About that time her menstruation began to be more profuse. This symptom has been growing worse during the past year. About three weeks ago new symptoms showed themselves, consisting of pain in the hypogastrium, over the sacrum, in the inguinal region, and extending down the thighs. She also complains of frequent micturition. Of late these pains have increased in intensity, so as to deprive her of rest at night.

" *Status præsens.*—The patient is a tall woman, of large frame, but pale and anæmic. Physical exploration *per vaginam* revealed the fact that the cervical canal was occupied by a polypoid mass which extended down to the external os uteri, but did not protrude beyond it. The latter was slightly dilated, but not sufficiently so as to enable me to judge of the size of the growth. Bimanual palpation was not attended with any results, as there was a large amount of fat in the omentum and in the abdominal walls, and the latter were more or less rigid. By means of Sims' speculum, a fleshy growth was brought into view, situated just within the external os uteri. Having decided upon the ablation of the neoplasm, I introduced a sponge tent a few days after my first examination, followed by a second the next day.

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* *Vide N. Y. Obstet. Soc. Transactions*, 1876–78, p. 345.

On removal of the second tent about twenty-four hours after its insertion I found, on examination *per vaginum* (the patient being under ether), that the os uteri and cervical canal were not so well dilated as I had expected to find them. I observed at the same time that the infra-vaginal portion of the cervix seemed to be unnaturally short. The mass presenting at the external os uteri was ascertained by the touching finger to be a proliferating growth, as it were, from a firm, fleshy intra-uterine polypus, sessile on a broad basis, and apparently attached to the right side of the body of the uterus, projecting into and filling up the cervical canal. After excising the proliferating mass, which was soft and friable and about the size of a filbert, I seized the fleshy growth which I took to be a polypus, with a strong pair of volsella forceps, and passing this instrument over to the hand of an assistant, I enjoined upon him the duty of exercising firm and steady traction. Guided by the finger, I proceeded to the extirpation of the supposed polypus by means of the scissors. On the right, at a short distance within the cervical canal, the finger was arrested by the attachment of the growth; but sweeping the finger over the rounded protuberance and bearing to the left, it penetrated to a greater depth, to the extent of an inch or more. That I could not pass the finger farther in I explained by the fact that the growth encroached so largely by its attachment upon the uterine canal, and by the further fact that sufficient dilatation had not been obtained, though the tent apparently entered the uterine cavity. My mind being completely possessed by the idea that I had a polypus to deal with, I was unable to draw the proper inferences from any peculiarities that the case offered at various steps, and which, under other circumstances, might have led me to doubt the correctness of my diagnosis. Thus it was that I could deliberately proceed to the entire extirpation of the rounded polypoid growth, or rather apparent submucous myoma, and when, in my last cut, I recognized the fact that I had entered the abdominal cavity, I thought that I had simply a fibroid tumor deeply imbedded in the thickness of the uterine wall, covered by a thin layer of peritoneum, and that the latter had been removed with the tumor. On withdrawing the volsella, however, with the extirpated portion held in its grasp, I saw at once that I had taken off the right cornu, a portion of the fundus, and a large segment of the body of the uterus, including also the right ovary and a part of the broad ligament. The patient reacted from the shock of the operation without difficulty, the amount of the hæmorrhage having been very slight. Partial peritonitis was developed soon, but progressed favorably, and the temperature never rose beyond 103° F. In this operation I had the able assistance of Drs. J. Harvie Dew and B. Thompson of this city, who were, it is right to say, not at all responsible for the wrong diagnosis. The further history can be given in a few words: About eight months subsequent to the operation she died with the symptoms of exhaustion. The clinical phenomena was such that I felt warranted in drawing the inference that the original growth that caused the partial inversion was a sarcoma, and that the further extension and development of the sarcomatous infiltration was the cause of her death. At the time I reported the case to the Obstetrical Society I was under the impression that it was an interstitial myoma. That a microscopical examination was not made was owing to the fact that the growth was inadvertently thrown away by one of the attendants when the operation was performed.

The reader will doubtless be reminded by this case of a similar one quoted by Dr. Thomas* as occurring in the practice of the late Dr. C. A. Budd of this city. Dr. Thomas † mentions a case of like nature which occurred in his own practice. In commenting on Budd's case, Thomas says: "The case, which was one of partial inversion, was not susceptible of diagnosis." That it is exceedingly difficult to diagnosticate a partial inversion when complicated by an intra-uterine growth cannot be denied. The all-important question, however, is, are the difficulties in the way of diagnosis insurmountable? I think not, as a rule. What now, are the criteria which may be relied on for guidance, and what methods of physical exploration are to be brought into play as aids to diagnosis in these circumstances? In some cases accurate examination of the pedicle will serve to show that it is softer than the tumor itself, and thus awaken suspicion that it may be formed by the uterine wall, which has undergone partial inversion. In other (excep-

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* "Diseases of Women," 5th Ed., p. 456.

† "Trans. N. Y. Obstet. Soc.," 1876-78, p. 348.

tional) instances a groove has been found to indicate the transition of the tumor into uterine tissue. At times the difference of the color between the tumor and the uterine tissue may furnish valuable diagnostic aid. The sensibility of the pedicle when subjected to pressure has been dwelt upon by some authors, but is rather a fallacious guide to diagnosis, as in some cases it was found to exist, while in others it was quite wanting. A peculiar phenomenon which may accompany partial inversion of the lower part of the uterus, and which arrested the attention of Klob* in a case coming under his observation, is the flexion of the fundus directed toward the point of inversion. "This flexion," says Werth † "must originate in consequence of the shortening which the uterine wall, affected by the inversion, undergoes, and of a traction in this way exerted on the fundus." Werth insists upon it that the sign to which reference has been made—*i. e.* the obliteration of the os by traction—is not absolutely peculiar to inversion, and cites a case occurring in his practice of a submucous myoma attached to the posterior wall of the uterus just above the os. Here traction on the tumor, which had escaped into the vagina, permitted the posterior cervical wall to unroll up to complete disappearance of the posterior lip of the os uteri, and yet no inversion of the posterior segment of the wall occupied by the tumor was produced.

Prognosis.—Even when the condition has existed a very long time the prognosis is grave, as the hæmorrhages may so exhaust the patient that she will succumb readily to any intercurrent disease. No matter how long standing the case, the prognosis however, should not be absolutely hopeless. After reinversion pregnancy may take place as in the cases communicated by Tyler, Smith, and Emmet. If the observation made by a number of authors is correct—and their credibility cannot be questioned—the spontaneous reinversion of an inverted uterus may occur occasionally. One of the most accurately observed cases coming under this category is Spiegelberg's,‡ in which the uterus was found in its normal position after the patient had been two weeks on her back and had suffered with a severe attack of diarrhœa. Schatz gave the following explanation: During the quiet, recumbent position the organ assumed a higher position, so that the ligaments entering into the funnel shortened; during the evacuations consequent upon the diarrhœa a strong pressure was exerted on the ring formed by the cervix by the effort of the abdominal pressure from within, while the shortened ligaments permitted only a slight dislocation downward.

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* "Path. Anat. of the Female Sex. Organs," p. 104.

† *Archiv für Gyn.*, Bd. xxii. 1st Hft., p. 71.

‡ *Archiv für Gyn.*, Dd., p. 119.

Consequently, owing to the fact that while the cervix was powerfully pressed downward the fundus remained approximately at the same height, the first was carried over the latter.

Treatment.—Nowhere in gynæcology have our therapeutical endeavors been crowned with more brilliant success than in this field. To effect replacement in a recent case is a comparatively easy task, but in chronic cases it is an exceedingly difficult problem. We can undertake the reposition either by the hand alone or by the aid of instruments constructed to press upon the fundus. While the patient is under an anæsthetic an endeavor is made to press the fundus upward by the left hand in the vagina, while the right co-operates through the abdominal coverings by pressing the funnel downward. It is comparatively easy when the uterus is soft and yielding to push the fundus up as far as the external os, but beyond that we meet with very great difficulties. A great variety of instruments have been constructed to exert pressure on the fundus, one of the most ingenious of which is that of Dr. John Byrne of Brooklyn. Forcible taxis, however, is attended by such obvious and urgent risks that I believe its aid will be invoked less and less. More and more have modern gynæcologists come to look with favor upon prolonged elastic pressure by suitable mechanical contrivances as the best means at our command.

Before leaving the subject of manual reposition the methods of Neoggerath and Emmet should be mentioned. The former recommends to indent one horn of the uterus, whereupon the other angle will follow. Emmet advised the manual reposition by taking the fundus in the palm of the hand and encircling the portion of the body close to the seat of inversion with the thumb and four fingers. While, now, the hand pushes the fundus upward, the fingers are immediately separated to their utmost; at the same time the other hand is employed over the abdomen in the attempt to roll out the parts forming the ring by sliding the abdominal parietes over its edge. By this method he was successful in several cases. A very ingenious procedure was employed by him to keep up continuous pressure against the fundus, which had been pushed up sufficiently high for the purpose, by uniting the lips of the vaginal portion beneath the fundus with silver-wire sutures.

For the purpose of elastic pressure one of the best means is a colpeurynter. It operates not, as might seem at first thought to be the case, by the pressure against the fundus, but by the fact that the widely-distended walls of the vagina exert a peripheral traction on the cervix, and in that way render the retrocession possible. In one case of two years' standing Schroeder replaced the inverted uterus by the colpeurynter after energetic attempts by manual reposition had been tried in vain. If the inversion is evoked by a tumor, this must be first removed, when the reposition takes place immediately or in a few days as a rule. If any doubt should arise as to our ability to enucleate the tumor, the suggestion of Werth* is worth following—to pass, in the first instance, sutures through the pedicle, as in this way we guard against all contingencies, even in the event that finally the growth must be ablated by scissors or the ecraseur.

According to modern experience, we should not abate a jot of heart or hope even in cases apparently the most desperate, as by perseverance we may look for success in the majority of cases. Hart and Barbour† believe that pressure by an elastic bag is not so efficient as that produced by a wooden cup set on a stem with a vaginal (or, better still, a vaginal and perineal) curve, so that the pressure is made in the axis of the brim. Pressure is made by four elastic bands which pass, two in front and two behind, to a broad abdominal bandage; by the tightening of the front or the back bands the direction of pressure is altered. Very suggestive is the case reported to the Suffolk Medical Society by Dr. C. E. Wing in November, 1879, in which he reduced a chronic inversion by the employment of *continued gentle pressure*, the means at his command being "an old-fashioned wooden stethoscope," a piece of sheet india-rubber, and two pieces of elastic tubing. Aveling's uterine repositor belongs here and has been highly praised.

Dr. Thomas proposed and executed in two cases an operation applicable to those cases which have resisted all other means of reduction. His method consists in abdominal section over the cervical ring, dilatation with a steel instrument made like a glove-stretcher, and reposition of the inverted uterus by one of the methods mentioned by the hand in the vagina. In one of the cases treated in this manner by Dr. Thomas, cure followed, notwithstanding the complications of vaginal rupture and severe hæmorrhage externally and into the abdominal cavity. The second patient upon whom he operated died of peritonitis. After reinversion the inner os uteri remains patulous for some time; the mucous membrane is too large for the cavity and is thrown into folds; a proper portio is formed gradually.

If *amputation* becomes necessary, the uterus is drawn down as far as possible and the upper portion fixed by passing threads through it, the uterus is then ablated in front of this, and hæmorrhage controlled by ligature or suture, the peritoneum being included.

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* *Loc. cit.* p. 76.

† *Loc. cit.* p. 378.

ARTICLE II.

A CASE OF SUPPOSED PARTIAL TWIST OF THE INTESTINE.*

BY GEORGE E. MCDONALD, M. D., Schenectady County.

On January 20th, of the present year, I saw, in consultation, a case of obstruction of the bowels, with this history:

The patient was a spare, female child, æt. five years, whose health before this attack had been good.

Just one week before my visit, a free fæcal movement had naturally taken place. For four days prior to my seeing her there had been pain in the epigastric region, almost continuous retching and vomiting of mucus and bile, and frequent stools of blood and mucus, with severe tenesmus. The belly was not tympanitic; on the contrary, it was flat, and no tumor could be found. The tongue was moist and flabby, the pulse quick and feeble, and the temperature sub-normal.

A digital examination per rectum revealed nothing abnormal. The usual medicines, consisting of opium, calomel, etc., had been prescribed by her physician; copious enemata, medicated and of warm water alone, had been injected with entire failure. I myself passed a rectal tube fourteen inches in the bowel, and injected through it a large warm water enema, which was soon returned, entirely free from fæcal odor and color, and following it, attended with severe tenesmus, was a small quantity of blood and mucus.

The posture of the patient was peculiar. She would lie with the side of the crib pressing on the epigastric region, and would take the same position on the lap of her mother.

As the patient's condition was, of course, extremely critical, and as the usual medicines had been given a fair trial with no good result, I suggested to the parents the operation of abdominal incision. They gave their consent. I accordingly made the necessary preparations for the performance of the operation. Chloroform was administered, and while under its effect a very thorough and complete examination of the belly, by manipulation and kneading, was made in the hope that a tumor might be found. None, however, was discovered by the six physicians who made this examination. While I was manipulating, I thought that possibly good might result from this procedure, and concluded that it would be well to postpone the cutting for a few hours. It was then 9 P. M. On the following morning, at 8 o'clock, we again saw the patient. She had passed a bad night, had vomited and retched frequently, but had made no attempt at stool. Preparations were once more made for the operation. Just before the chloroform was to be administered, the patient, by her wish, was placed upon a commode, and, fortunately for all concerned, she had a fæcal passage, liquid, not fœtid, dark brown in color, and containing no membrane or shreds of membrane. Other movements of the same character occurred in a few hours, and recovery rapidly took place.

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*Read before the New York State Medical Association, October 9, 1888.

It may be the opinion of some of my hearers that this was a case of obstruction due to fæcal impaction. I think not, for it is to be noted that no hard lumps appeared at any time in the movements. I have never treated a case due to fæcal impaction in which scybala have not been present in the matter passed per anum.

Intussusception could hardly have caused the condition mentioned, for the reason that the manipulation of the patient's abdomen could not have freed the sequestrum from its envelope so long a period after its invagination. The contiguous surfaces would have been so firmly united as to have prevented it. The alvine discharges contained but little blood. They were never so bloody as frequently happens in obstruction from invagination.

As has been stated, the belly was entirely free from distention; its walls were lax and loose; the spinal column could easily be felt through them; and, had a fæcal tumor existed, it could have been detected. The absence of tympanites can be ascribed to the obstruction existing high up in the intestinal canal. In my opinion a partial twist of the intestine was relieved by one of the six pairs of hands which so thoroughly manipulated the patient's belly while she was under the influence of chloroform.

ARTICLE III.

ETIOLOGY AND TREATMENT OF YELLOW FEVER.

By DR. PAUL GIBIER, Supernumerary to the Chair of Pathology of the Museum of Paris; formerly House Physician and Surgeon of the Hospitals of Paris; Laureated by the Faculty of Medicine and by the Academy of Medicine of Paris; Given a Gold Medal of Honor (Cholera, 1884); Officer of the Academy, Chevalier of the Legion of Honor; Commissioned by the French Government to study Yellow Fever (Fifth Scientific Mission), &c., &c.

Translated for GAILLARD'S MEDICAL JOURNAL by
Joseph A. Pacetti, M.D., Jacksonville, Fla.

To the Academy of Sciences of Havana, June, 1888.

GENTLEMEN:

As we are approaching the season in which Yellow Fever usually prevails with its greatest intensity, I have thought it convenient, and in some way useful, that I invite you to assemble that I may recapitulate the results of my investigations on that disease, as well as the therapeutic indications which I think are the natural deductions from them. It is not my intention to give the complete history of the etiology of Yellow Fever, as it would not teach you anything new on the subject, at least for the time anterior to the period of bacteriologic in vestigation, a period inaugurated by my master, the great Pasteur.

When my government charged me with the mission of studying Yellow Fever, some investigations had been made with this disease on the line of bacteriology. Some of the authors of investigation had professedly given positive and others negative or doubtful results. Among the first, those which have had the greatest fame, are Domingo Freire of Rio de Janeiro, Carmona in Mexico, and Finley and Delgado in Havana. You know, gentlemen, what remains of those investigations. In a recent sitting held in this hall, the two latter have with honorable frankness abandoned their former opinion, and among those whose researches have given a negative result and were the most competent are:

1. Dr. Sternberg who, as far back as 1879, declared that he did not find any microbe in the blood and humours of the Yellow Fever subjects.

2. Dr. Tamayo in Havana.

3. Dr. Le Dantee, a surgeon in the French navy, who has reached the same conclusions. However, if the majority of you do not find micro-organisms in the blood or the humours of those who succumb to the Yellow Fever, it is very possible that it will not always be so, for in a disease in which you observe blood extravasations in the intestines, nothing can prevent microbes from entering more or less into the circulation.

I declare to those who will make examinations in this way, that they will in a few cases, at least, meet occasionally microbes in the blood, viscera, humours when there may not exist any relation between those microbes and the primary affection—I say *primary* affection for, as in cholera and other diseases with intestinal manifestations, the fortuitous penetration of these elements, strangers to the principal disease, determines the explosion of various epiphenomena which the clinician studies and the cause of which the anatomo-pathologist and bacteriologist indicates to-day.

In the first nine cases examined, I have not seen, as already said, any microbe in the liquids or viscera, except of course, in the bowels. Since, I have had the opportunity to observe three new cases, two of which were fatal; and in the urine taken through the walls of the bladder, I have isolated in one case three different microbes—a large bacillus, another smaller, and a micrococque. I do not know if the patient had been catheterized before his admission into the hospital, or, if the tube which has been used to draw the liquid had been infected; but it is not impossible that those micro-organisms came from the kidneys without attributing to them any significance from an etiological point of view.

I have found a few moments after death some microbes in the kidneys of two subjects, one having died with mitral insufficiency, and the other with parenchymatous nephritis. In the latter the colorises which developed in Esmarch's tubes were very abundant. The urine of these subjects has not been examined, and I regret it to-day; perhaps the analysis would have shown the presence of the same microbe that was found in the renal substance. The microbe reported by Babes, which he found in a very few sections of the viscera do not seem to have any greater importance.

When I arrived in Havana this was the relation of science in regard to Yellow Fever, and as I have before remarked I came with the idea that I had nothing to do but to continue the work of Dr. Freire, and my conviction was so firm that, in order to protect myself against Yellow Fever, I had inoculated myself with the microbe that the Brazilian physician had brought with him to my laboratory in Paris, where we had studied it together. The first inoculation, made carefully with a lancet, was not followed by any disturbance, but a subcutaneous injection, made eight days after, developed symptoms so grave that I would not repeat the experiment for anything in the world.

But great was my surprise when after several examinations post-mortem, and on the sick, I have been convinced that everything had to be done as yet. Thus, I began independent investigation, and I have obtained certain important results of which I will remind you briefly.

Here the author analyzes and recapitulates what he has said above.

The microbe continues to live in an organic medium amongst the bacteria of putrefaction, *providing that the medium does not become acid*, acidity, in fact, even very feeble, destroys it in a few hours, a fact I have verified several times. Thus may be explained its disappearance from the bowels during the progress of the disease, or a few hours after death, when the contents of the bowels turn acid as I have seen in some of my observations.

In my previous communications, after having made an examination of the different characteristics of the bacillus that I have discovered, I have said that there is at least great probabilities that this microbe is the cause of yellow fever. I shall add that without having as yet scientific certitude, my conviction has been strengthened because I have encountered my bacillus in the bodies of some Spanish soldiers in the military hospital of Havana, and I have discovered it since, in the bodies of foreign sailors who have died in the civil hospital of the same city. I have not found it in the intestines of subjects who have died with other disease. I am convinced that Yellow Fever is a disease the primary cause of which, whatever it may be, is located in the intestines. Yellow Fever is produced by the development in the bowels of microbes analogous in several respects to the bacillus of that other local disease, the cholera.

Yellow Fever is not a disease which is ordinarily fulminant. Most frequently it gives to the physician ample time to apply remedies. Of course, the sooner the treatment is applied the better. Unfortunately, being unaware of the true or real nature of the affection he had to combat until to-day, the physician was attending only the symptoms which he treated in detail, because of the impossibility of seizing at once and overcoming the actual cause. That is a proof that symptomatic treatment is not always the best—for instance, in the present case. Instead of combating the vomiting by ice drinks or gaseous potions, it would no doubt be better to respect a symptom the natural tendency of which is to relieve the economy of matters which are poisonous.

Starting on the principle that Yellow Fever is an intra-intestinal bacterial affection, the treatment of it may be considered under two different aspects: 1. It consists in combating the adynamy and supervising the renal functions. As soon as albumen appears in the urine, and even before, it is useful to render active the skin secretions by means of frictions, lotions, etc., in order to relieve the kidneys and enable them to resist the ptomaines which have been absorbed and are eliminated through the renal tubes. The strength will be, if necessary, stimulated by strychnia, alcoholic drinks, and especially by champagne wine; or, on the contrary, calmed in case of agitation. I will not speak of the hygienic treatment with baths, etc. 2. The real and specific treatment of Yellow Fever, and therefore much the most important, is what I advise *from the first appearance of the disease.* Every morning give an active purgative. On the first day thirty-five to forty-five grammes of sulphate of soda; on the second day from forty to fifty grammes of castor oil; give it, if necessary, in two or three divided doses; on the third day give one gramme of calomel, and recommence this course during a septenary. If the patient vomits a part of the dose, cause him to repeat at once with some small fragments of ice.

The author thinks and believes that when the physician is called after several days' sickness, it is important to relieve the stomach and the bowels with emetics, enemas—even by stomachal catheterism—before giving a purgative. But that is only the first part of the treatment, and, as I am accustomed to say, it is necessary to proceed with the intestine as with an infected wound; in two words, *wash and disinfect.* I have spoken of the washing; I shall indicate now how to disinfect the digestive canal. In one case that I have treated with success, although I had refused at first to make a trial, as the case was considered by almost all the physicians who saw it as hopeless, I have given only as antiseptic a potion containing 0.08 the first day, 0.10 the second, and on the third 0.05 centigrammes of bichloride of mercury and a muriatic lemonade.

But I think that at the same time that you give bichloride, a very powerful antiseptic with which I have obtained the best results in certain intestinal affections, you should give some other disinfectant compatible with this salt. Professor Bouchard, of Paris, has lately called attention to naphthol; tannic acid, an inoffensive body, is also an excellent intestinal disinfectant. Naphthaline (Rossbach) is an antizymotic, very powerful for the same purpose. With a few grammes of this substance the discharges become inodorous.

Thus I would advise the following:

No. 1.

℞.	Bichloride of mercury - -	5 to 8 centigrammes.
	Cognac - - - -	50 grammes.
	Syrup acacia - - -	50 “
	Infusion of coffee - - -	150 “

SIG.—One tablespoonful for a dose, given so that the whole formula will be taken during the twenty-four hours, using for the purpose glass or porcelain, not metal spoons.

No. 2.

℞. Naphthaline - 0.50 centigrammes in each wafer.

SIG.—Five to ten wafers during the twenty-four hours.

No. 3. Tannin can be used in the same way as naphthaline.

No. 4. Combat the thirst by a muriatic lemonade at one or two per 1,000.

The author says that this treatment shall be continued for several days (four or five), without stopping during the remission, which is oftentimes a deceptive pause, and that it is a matter of course that the treatment must be proportioned according to the gravity of each case. At the end of his lecture there was an observation of a patient to whom he alluded, and who recovered under the above treatment; and, regretting that this case might be unique, he adds that at least the new treatment does not diminish the prospect of recovering even in apparently hopeless cases.

SELECTIONS.

THE RELATIVE VALUE OF OPIUM, MORPHINE AND CODEINE IN DIABETES MELLITUS.*

By Thomas R. Fraser, M. D., F. R. S., F. R. C. P. E., Professor of Materia Medica and of Clinical Medicine in the University of Edinburgh.

Since Pavy's recommendation of codeine as a remedy having advantages over opium and morphine in the treatment of diabetes mellitus, codeine has been much used, and has even, to a large extent, displaced opium and morphine in the treatment of this disease.

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* Read in the Section of Pharmacology and Therapeutics, at the Annual Meeting of the British Medical Association, held at Glasgow, August, 1888.

There are, at the same time, no clear pharmacological data in support of this preference. Indeed, the data are not even such as to suggest it; for, notwithstanding assertions of a like superiority in the relief of various symptoms of other diseases, the facts, so far as we know them, seem to show that, pharmacologically, codeine is, in its most important actions, merely a weak morphine. This conclusion is supported by the circumstance that in its chemical structure it differs from morphine only in containing methyl—that, in fact, it is morphine diluted by the addition to it of the relatively inactive substance, methyl.* In regard to its therapeutic effects in those conditions, other than diabetes, in which it is now commonly used, I have also failed to obtain any evidence that it acts otherwise than a weak morphine; for example, in the relief of cough, the production of sleep, or the removal of pain, whether in the abdomen or elsewhere.

These considerations, as well as the special suitableness of the disease for such comparison, and the probable value to therapeutics of any decisive results that might be obtained, induced me, several years ago, to make some observations for the purpose of comparing the effects of codeine with those of opium and morphine upon the more important of the phenomena of diabetes mellitus.

Observations of a detailed character have been made on four patients, with results of a concordant kind; but I propose to describe, by way of illustration, the results that are of most importance in one of these patients only, on whom, incidentally, some observations were also made with atropine.

This patient, M. B., æt. twenty-six years, came under my care in the Royal Infirmary of Edinburgh on October 5, 1887, suffering from thirst and frequent micturition. None of her immediate relations had suffered in a like manner. She was a nursery maid, and had lived in comfortable houses and been supplied with abundant and good food. The first symptom of her illness was thirst, which showed itself about seventeen months prior to her admission, and had led to the discovery that she was suffering from diabetes mellitus. She was treated for this illness, but without much effect, and she soon became very weak and lost flesh, so that in twelve months her weight was only eight stone, whereas immediately before this illness it had been ten stone. Notstanding careful and strict dieting, the emaciation advanced, and she weighed only seven stone four pounds when she entered the Royal Infirmary. She was then dyspeptic and moderately anæmic, but she did not suffer from constipation, nor was the liver enlarged. There was no disease of the respiratory or circulatory systems. The eyes were hypermetropic, the skin dry, and the temperature slightly subnormal.

The patient was in the hospital from October 6, 1887, to July 10, 1888, and the observations to which I shall now draw attention occupied the whole of this time. The general plan followed was to allow the patient ordinary diet for one period; then to adopt a carefully restricted diet; then this diet with codeine, in doses varying from half a grain to five grains, thrice daily, and for a short time with one-sixtieth and one-thirtieth of a grain of sulphate of atropine thrice daily; then restricted diet alone; then restricted diet, first with opium alone, in doses of half a grain to one grain and a half, and afterwards with opium and sulphate of atropine; and, finally, restricted diet with hydrochlorate of morphine. The administration of morphine was not preceded by an interval in which restricted diet alone, and without any medicinal treatment, was adopted, as in the period immediately preceding that of the administration of morphine, in which no medicine was given, the patient had become dull, languid and sleepless, she had complained of sickness and loss of appetite, and in a few days had been unable to leave her bed.

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* Expressing the relation in more exact terms, codeine is to be regarded as a methylmorphinate, in which the hydrogen of the hydroxyl in morphine is replaced by an atom of methyl.

During the whole of the nine months in which the patient was under observation and treatment, with the exception of only a few days occurring now and then, the quantity of fluid drunk, the quantity of urine voided, and the specific gravity of the urine and the amount of urea and of sugar contained in it, were each day recorded. The weight of the patient was ascertained from time to time, and a careful record was made of her diet and also of her general state of health. In the labor that was necessary I had the hearty and able co-operation of Messrs. C. G. Gibson and W. H. Bunting, clinical clerks, and Dr. Mackness, resident physician. The daily observations are too numerous to be communicated to the Section. I shall, therefore, only state the averages for each period and condition of treatment. (The table of averages communicated to the Section is here omitted, as the general results shown by the table are included in the immediately following statements.)

To state the results in another way:

1. The case was one in which mere restriction of diet did not have so marked an effect as occurs in many cases. The prospects of successful treatment were not, therefore, very hopeful.

2. Codeine had a very decided effect in reducing the quantity of urine, sugar and urea. When contrasted with the reduction produced by restricted dietary alone, the addition of nine grains of codeine in the day lessened by about one-third, and of fifteen grains of codeine in the day by about one-half, the quantity of fluids drunk and the quantity of urine, sugar and urea, and it slightly reduced the specific gravity of the urine.

3. The addition to fifteen grains of codeine of the one-twentieth, and afterwards of the one-tenth, of a grain of sulphate of atropine caused a still further, though not a large, reduction.

4. After the administration of codeine had been stopped, an interval of six days on restricted diet, without any medicinal treatment, was not sufficient for a deterioration to occur to the conditions present before codeine had been given.

5. The subsequent administration of half a grain of opium thrice daily produced a considerable reduction. With one grain of opium thrice daily the reduction was to less than one-half, when contrasted with the amounts during a restricted diet alone, and before any medicinal treatment had been adopted. One grain and a half thrice daily produced a further reduction; and when to it was added one-twentieth of a grain daily of sulphate of atropine, a still further reduction occurred.

6. Restricted diet, with one-third of a grain of hydrochlorate of morphine thrice daily, or one grain daily, also produced a marked reduction; and the conditions relative to the points under investigation were even more satisfactory than when fifteen grains daily of codeine were being administered. While this small quantity of morphine was being taken, the fluids drunk by the patient were only one-third, the urine and sugar less than one-half, and the urea about one-half of the amounts during the period of restricted diet alone, before medicinal treatment had been commenced.

As to the general state of the patient during each of these conditions of treatment, restriction to an anti-diabetic dietary produced improvement in thirst and mental activity. So long as the quantity of codeine was limited to six grains daily, this improvement was maintained; but when nine grains, and even more, when fifteen grains were being taken daily, the appetite failed, she became listless and apathetic, vertigo was occasionally experienced, and the patient remained for a considerable part of each day asleep in bed. The addition of atropine to the codeine did not produce any improvement, but rather added to the discomfort by impairing vision; and even when only one-sixtieth of a grain was being taken thrice daily, the pupils became slightly dilated. When codeine and atropine were stopped, and a restricted dietary alone adopted, the health was not improved. The symptoms referred to became, indeed, worse, and prevented a prolongation of the period of restricted diet without medicine to the extent that seemed desirable before a new plan of treatment was adopted. When opium was now given a marked improvement occurred, but the larger doses caused some drowsiness during the day. With one grain daily of hydrochlorate of morphine the condition of the patient became more satisfactory. The drowsiness soon disappeared, the appetite improved, and she became sufficiently active to engage in ward work. Constipation of the bowels was not produced by any of the medicinal agents employed.

A consideration of these averages seems to show that under a daily administration of one grain of hydrochlorate of morphine, the quantity of fluids drunk, and of urine, urea and sugar voided, was rather less than when three gains of opium, and decidedly less than when fifteen grains of codeine were being taken. In three other cases in which I have instituted a comparison between these substances in diabetes mellitus, morphine also showed a marked, though not so great, superiority over codeine. After this note had been prepared, I have seen a recent paper by Dr. Bruce, of London, in which similar results were obtained in two very carefully observed cases. So far as I know also, the favor with which codeine is regarded in this disease has not been supported by any observations calculated to show its value relatively to opium or morphine so clearly as in the cases to which I have referred.

The evidence, therefore, seems to indicate that codeine is a less powerful remedy in diabetes than either opium or morphine, and to confirm the view that in its therapeutic value it ranks as a weak or diluted morphine.

The conclusion receives an importance (no doubt a subsidiary one) from the circumstance that codeine is about three times as expensive a substance as morphine. The great demand for it has led to its being manufactured from morphine so largely that probably one-fourth of the codeine in the market is an artificial substance. When we consider the large doses that are required in diabetes mellitus, and the generally protracted duration of this disease, we are, I think, justified in asking for more clear evidence of its superiority over morphine than has as yet been produced.

REMARKS ON DRY ANTISEPTIC WOUND TREATMENT. By Jordan Lloyd, M.B., F.R.C.S., Surgeon to Queen's Hospital, Birmingham.

During the past three years I have treated all recent wounds on what I call dry antiseptic principles, and I am so satisfied with the method that I venture to call attention to it. The number of cases of rapid primary union which I have had, both in hospital and in private during this time, and under this treatment, far exceeds anything I had previously seen either in my own or in the hands of others. Although I am not aware of the exact methods detailed below being elsewhere practiced, I do not pretend that they are original, and it will not surprise me to learn that many practitioners have adopted precisely the same procedures, or, at least, have been guided in their wound dressing by identical principles.

In the year 1878 it was my privilege to be a house-surgeon under my late colleague, Mr. Sampson Gamgee; and I need scarcely add, therefore, that the principles which animated him in this matter of wound treatment became familiar to myself. At that time, rest, position, and pressure were extolled by him as the "Trinity of the Surgical Graces." Dryness and infrequency of dressings were his guiding rules in practice. Gamgee understood, as did Liston, Syme, Bell, Pott, and Hunter before him, those great primary and essential conditions under which injured tissues most readily heal, and his affection for old surgical authority would not allow him to be carried helter skelter away on the tide of Lister's carbolic sea. He appreciated what was sound in the Listerian method, and accepted it at once; he smiled at the "theory," and jested at the "spray," and how far he was right the practice of many of our leading living surgeons bears ample evidence. Shortly before Gamgee's death he had included a fourth amongst his "Graces," that of antisepsis, although he never attached the importance to it to which it is properly entitled.

Rest, position and pressure are potent factors for good in the treatment of all wounds, but greater than any one of these is perfect "surgical cleanliness," another term, I take it, for "perfect asepsis." The essentials of wound treatment, therefore, constitute a party of four—a quartette—in order of importance as follows: 1, surgical cleanliness; 2, practical immobilization; 3, uniform pressure; 4, moderate elevation. Dryness of dressings I look upon as scarcely second in importance to any of the above.

Dominated by these principles, I have by degrees elaborated a method of wound dressing which, in my opinion, nearly satisfies all requirements, but that still further improvements will be added I think is extremely probable.

I will now briefly describe my present method of operating and of subsequent wound treatment, say, for example, in an amputation through the leg. Every patient about to be submitted to any surgical operation ought to have been confined to bed for at least twenty-four hours, and, whatever the nature of the operation, the bowels should have been cleared. These are points to which too little importance is often given.

The parts are shaven of hair, washed with soap and warm water, well scrubbed with a nail brush, and are then protected with a cloth wetted with weak corrosive sublimate lotion until the moment of operation. The patient is anæsthetized, the tourniquet applied, and the limb exposed. All clothing covering other parts is protected with cloths wrung out of weak antiseptic lotions, chiefly for the purposes of shutting in the "fluff" of the blankets, dressing gown, etc.—one of the most potent "infectors" in operations as frequently carried out—and also for laying artery forceps, retractors, etc., down upon when they are not actually in use.

The hands of self, and not more than two assistants and a nurse, are scrubbed with hot water and soap, care being paid to the recesses about the finger-nails (another common lurking-place for septic matter). Let there be no misunderstanding as to the number of hands which are to come in contact not only with the tissues of the part itself, but, what is more important, with anything and everything which is to be used at any stage of the whole operation. After these hands are cleaned, see that they are not thrust into pockets, nor used to restrain a refractory patient, by seizing other parts of his body than that which is to be operated on, for here, again, lies another source of infection. Hands are washed, but they are often re-contaminated before the operation begins.

Instruments are to be thoroughly washed and scrubbed, and with regard to these I will merely mention the localities in which infective material is most likely to be overlooked: first, the teeth of artery and other forceps; secondly, the eyes of needles; thirdly, the checquered handles of knives; fourthly, the teeth of saws; and fifthly, the chains of *écraseurs*,

Sponges I never use. I fear them most in hospital practice. There is no way of assuring yourself of their cleanliness. Theoretically no objection can be sustained against them, but practically they often betray us. I use instead pieces of new lint, about fourteen inches square, usually two or three being sufficient for major operations. These are swilled out in warm water by the nurse who is assisting.

When the limb is off, free bleeding points are tied with catgut ligatures; capillary oozing is checked with hot water. I always endeavor to stay the last leaking point, but in the majority of cases I am bound to confess that I fail to secure that dryness of surface which theory says is essential to primary union. Small clots between wound areas give me no uneasiness. I have seen Gamgee shut up freely bleeding flaps and still obtain primary union. "Securing the last bleeding point" often means prolonged operation with all its evils, as well as the unnecessary bruising of tissues which follows from the inevitable "mopping" attending the discovery of troublesome points.

Before closing the wound the whole raw surface is thickly covered with finely powdered boracic acid, rubbed gently but thoroughly into the parts, attention being directed to the connective tissue plains around muscles, vessels, and nerves. The procedure is precisely like that adopted by the cook when "salting" hams. Several drachms, sometimes ounces, of the acid are shut up in the wound, and are never seen any more. The "salting" constitutes an essential part of the dry antiseptic process which has given such good results in my hands. Wound edges are sutured sometimes with silk, at others with silver, for which latter, however, I have no preference over fine iron wire.

Drainage is best arranged for when the wound is nearly closed. A finger introduced at this stage discovers the deepest, most dependent recesses, and into these large rubber drainage tubes are directed, and are brought out as a rule at the angles of the wounds, but sometimes special incisions are made through the tissues and skin of a posterior flap for the purposes of shortening and of perfecting drainage routes. The ends of the tubes are left several inches long, and the dressings arranged so that the ends project outside their outermost layer. In this way all early serous discharge is carried right away at once, and the tubes can be withdrawn early without removing the dressings.

The wound being closed, it is dusted over with powdered boracic acid, and covered by a single strip of lint soaked in a saturated solution of boracic acid and glycerine, outside which are placed two or three thicknesses of Gamgee, absorbent tissue, cut and arranged so as to exercise equable pressure over the face of the stump and the lower twelve or eighteen inches of the limb. A simple layer of gutta-percha tissue is next applied, large enough only to extend to a point some two or three inches above the limit of the wound. The whole dressing is now secured by gauze bandages which encircle the limb to its uppermost limit. Mill-board splints, covered thickly with common wadding, are adapted outside the dressing, and are secured with ordinary bandages.

If during the forty-eight hours following operation temperature and pulse remain normal and pain is absent, I simply withdraw the tubes, and leave the dressings otherwise undisturbed. The meddlesome inquisitiveness which directs us to expose all wounds within twenty-four or forty-eight hours simply for the purpose of seeing how they are going on is calculated to do a tremendous amount of harm. Not a few primary unions are spoilt by the practice. It has always appeared to me like to the child who sows seeds in her toy garden, and digs them up next day to discover what progress they have made. Recent wounds should be dressed only in response to three demands—high temperature, quick pulse, and pain. If all are absent, practice teaches me that satisfactory progress is being made, whatever theory would suggest to the contrary. In the absence of any of the above indications, I leave wounds undisturbed from one to four weeks, dressing them only to remove sutures in amputations, tumor excisions, etc., to assure myself of accurate position in osteotomies and joint exsections, or to perform a further step in operations such as gastrostomy. If primary union is found to have taken place throughout the whole or greater part of the wound, similar dressings are again applied; but if free suppuration has occurred, I abandon dry and infrequent dressings altogether and use one of several other kinds, particularly adapted to the rapid and continuous and thorough removal of purulent products. In cases with what I regard as "inevitable suppuration"—most sequestrotomies, for example—after the first boracic acid dressing, I am fond of applying pieces of coarse scouring flannel, moistened with carbolic lotion (1 in 40), changed two or three times during the twenty-four hours, and continued until wound surfaces have cleaned and are covered with healthy granulations. I know no material which sucks up discharges with greater avidity.

I have used dry boracic dressings in major surgical operations of all kinds, and primary union has followed in the vast majority of cases. I have opened the abdominal cavity scores of times, the cranial cavity in many instances, and the cavities of joints on numerous occasions, and have never seen more than the merest trace of suppuration in any of the wounds.

I have had hip-joint amputations soundly cicatrized, and patients sitting up on the twelfth day. Failure to secure primary union in breast excisions comes as a bitter disappointment. I purposely avoid detailing cases in this paper, because I believe that no useful practical end would be served thereby.

My own experience of surgical dressings began at the General Hospital at a time when Listerism had attained what was considered its highest perfection, when operations were performed in a cloud of carbolic steam, and patient, and operator, and assistants practically swam about the theatre in floods of antiseptic fluids. None amongst my earliest teachers had a more thorough conception of what Listerism could do, none followed the precepts of his enthusiastic leader more energetically, no disciple of the germ theory was more conscientious, than the late William Preston Goodall. In his practice I gained my first experience of perfect primary unions after major operations: and without saying my present results are better than what I saw then, I am sure they are as good, and are secured with less labor to the surgeon, with less expense to the hospital, and with less suffering to the patients.

In conclusion, I would add my belief that no small measure of my success is due to the introduction *into* the wound of the non-irritating, non-poisonous, and reliably antiseptic, dry, and absorbing powdered boracic acid

THE FIBROMATOUS PROSTATE. By Reginald Harrison, F. R. C. S., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Clinical Surgery in the Victoria University.

The term fibromatous prostate seems to me to represent better than any other that condition of the part which most frequently brings it under the attention of the surgeon. Ordinary hypertrophy, where the relative proportions of the constituents are preserved, may be said to be the acquired disposition of the prostate in a considerable proportion of elderly males, to whose comfort we may infer it contributes. In the examination of men of sixty years of age or thereabouts, many of us must have been frequently struck, not only with the size the part has attained, but also by the immunity of the individual from symptoms of urinary incompetency. But in these persons, though the area of the prostate is increased as determined by the touch, there is usually no evidence that the part has undergone structural substitution. Nor is it at all necessary or consequential that such a hypertrophic alteration in bulk should give place to a new order of things, and that disturbed function must ensue. It seems to me, from a good many years' clinical observation in reference to this point, that no inconsiderable proportion of persons who have large prostates live about as long and as comfortably as others who are not so provided. Is the accession of urinary symptoms in persons so circumstanced to be attributed to what might be called the accidents of living, or to the development of tolerably well-defined changes in the hypertrophied part itself? Without referring to points which I have already discussed at length,* I may say that my observations lead me to believe that it is only when the hypertrophied prostate becomes the fibromatous prostate that it is capable of arousing those symptoms of chronic irritation and obstruction with which we are familiar in persons of advancing years. The liability to these and sundry complications arising out of them is largely determined by the elements entering into the composition of the part involved. That a muscular prostate is capable of adapting itself to circumstances where a fibrous one is not is, I think, a statement most of us would at once be inclined to admit. Reviewing what I have noticed of the symptoms which are assigned to senile prostatic enlargement, I cannot recall an instance where there was not evidence when looked for, not of structural increment alone, but of fibrous predominance. In some of these careful examination after death has shown us that fibrous tissue has largely invaded the muscular apparatus of the prostate. This substitution or proliferation is in practice observed in a variety of ways, which may be briefly illustrated.

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* Lettsomian Lectures, 1888.

The slightest forms of fibromatous prostate are often met with in elderly men in connection with sudden attacks of retention of urine, which conventionality assigns to indulgence in alcohol or sexual excess, often without sufficient evidence thereof. Exposure to wet or cold, such as sitting on a damp seat, is, I believe, a far more frequent cause. In this way some swelling of the part occurs, and retention of urine ensues. A few days' careful catheterism and warmth to the perineum usually put matters to rights again. Examination of the prostate with the finger from the rectum shows by the presence of indurations that it has undergone other alterations than those which could be included under the term hypertrophy.

Taking another class of cases—I refer to those where elderly persons suffer from more or less irritability of the bladder, with excessive mucous exudation—such individuals are often tormented by day and night to a degree which neither Nature nor the catheter can appease. Rectal examination shows not only that these men have, like a great many others, large prostates, but that they also have hard, knotty ones, which offer considerable resistance to the finger. In the last place let me illustrate from that class of cases where the prostate, by its fibrous excrescences, simulates stone. Here not only have we intense vesical irritation and inflammation due to the growth having encroached upon the interior of the bladder, but we have a secretion of mucus far exceeding anything that is usually seen in connection with stone in the bladder. Again, the catheter and the finger show that we have a still more advanced form of fibrous degeneration to contend with.

The outcome of these remarks, so far as I have observed, is that a large prostate may, functionally, mean very little. When, however, there is evidence that structural alteration of the kind indicated has taken place in it, the liability to the accession of urine symptoms is greatly increased. Further, in these changes we shall probably find an explanation not only for the development of symptoms which the commoner form of prostatic hypertrophy does not afford, but also, I believe, for certain alterations which have been observed in the physiological action of drugs upon the part.

In practice I have found that the structural condition of the prostate in the elderly often furnishes the best means for prognosticating events, so far as the urinary apparatus is concerned, just as a physical examination of the heart will enable the physician to forecast the future of the circulatory system.

These observations, bearing upon the pathology of the enlarged prostate, will be found to have fuller expression in connection with the views I have advanced in my recent Lettsomian Lectures, as to the muscular power of the prostate in retaining and storing urine.

ABSTRACTS.

GERMAIN SÉE ON HEART DISEASES.—In resuming his winter course of lectures on "Clinical Medicine," M. Germain Sée commenced by a general review of the diseases of the heart. Diseases of the heart, said the lecturer, are not distinct from one another. It is the same affection presenting itself under different aspects and offering different types. Whether the case be one of subacute or acute endocarditis, ulcerative or vegetating, the disease is always parasitic, and this view leads to a no less revolutionary deduction, that of the negation of their inflammatory nature. Under the latent, and sometimes the remote, influence of a specific disease, especially of articular or choreic rheumatism, the endocardium is exposed to the action of the microbe, easily defined in this part, although not so readily recognized in the joints. At other times the cause is a typhoid fever, or an attack of diphtheria long forgotten, scarlatina, infectious pneumonia, or even syphilis. There is no exception to this rule of the parasitic origin of valvular or myocardial mischief, except in chronic affections of the aortic orifice of old people, which coincide and result from the fatty, atheromatous and sclerous changes of the arteries. Like all other cardiac diseases, those of the aortic orifice in the young are parasitic. It is degeneration without a trace of inflammation that is found in all heart lesions, whether acute or chronic, and to this condition M. Sée would give the name of "endocardie." The same parts, the same elements and the same spots are invaded, the permanent lesion consisting of a hyperplasia of the conjunctive tissue. The disease is a continuation of the morbid process, which began in an acute or subacute form, perhaps unperceived by the patient or medical attendant. There is consequently but one cardiac disease presenting two types—the endocardial and the valvular types. A third type is due to sclerous, atheromatous and other changes in the arteries, comprised under the general term "arteritis," due to age, alcoholism, gout, diabetes, etc. The fourth type, and to which M. Sée assigns the most important place, is that condition of the heart which is caused by sclerosis of the coronary arteries, leading to degeneration and narrowing of the vessels, and ultimately to sclerosis of the myocardium—the fifth type. In the sixth class M. Sée places the hypertrophies and dilatations consequent upon primary valvular disease. The seventh class comprises the nervous troubles. M. Sée does not think, however, that palpitation and acceleration of the heart's action ever leads to hypertrophy. A pulse of 140 may exist without producing this effect. Nor does exophthalmic goitre lead to the slightest lesion or fatigue. The eighth type is the pericardiac, the cause here being always parasitic. In the ninth and last category come dilatation and aneurysms of the aorta.

RUPTURE OF THE HEART.—Meyer reports from the Pathological Institute of Munich (*Deutsches Archiv für klinische Medicin*, Bd. 43, Hefte 4 and 5) nine cases of this rare condition, and analyzes twenty-five cases which have been recorded in the literature since 1870. As indicating the rarity of heart rupture, he states that of the 12,000 to 13,000 sections made at the Munich Institute, since 1854, there have been only seven cases.

The older writers believed that a normal heart might break or rupture, owing to an excess of intra-ventricular pressure, the result of a sudden vascular disturbance due to psychical causes; but a review of more modern literature would seem to establish definitely the fact that some prior change invariably exists in the muscle. In several cases there has been a new growth in the cardiac wall; in one instance, an echinococcus cyst determined the rupture; and, occasionally, ulcerative endocarditis, when mural, will perforate and cause death by hæmorrhage into the pericardium. Practically, the great majority of cases depend upon two conditions — myocarditis and fatty degeneration. What we term myocarditis is usually the result of a lesion of a branch of the coronary artery; either an acute endarteritis, such as may occur in the specific fevers, or a chronic sclerosis of the vessel which leads to a fibroid condition of the muscle. The local disturbances of nutrition caused by the blocking of a terminal branch of a coronary artery produce the condition known as infarct of the heart; or, as it is sometimes called, anæmic necrosis. To this softening, which may be extreme, the term myomalacia has been applied by Zeigler. The danger is not alone at the period of preliminary softening, but time gradually effects a transformation of the softened areas into fibrous tissue, which yield and lead in many cases to aneurism of the cardiac wall and rupture.

In fatty degeneration we know that the most extreme grade may be reached without danger to the integrity of the heart muscle, so long as the process is uniform, but a localized fatty change which follows the gradual obliteration by endarteritis of a branch supplying a limited area of the cardiac wall, seems to precede rupture in a number of cases.

The relation of arterio-sclerosis to the changes which are associated with heart rupture, is indicated by the fact that in a majority of cases the patients are advanced in life. The mean age in Elléaume's cases was sixty-five years.

The left ventricle is the one most frequently involved. In Meyer's cases, in twenty-five the rupture was of the left ventricle, seven of the right ventricle, and four of the right auricle. The apex of the left ventricle is usually the site of the laceration, probably, because it is in the long branch of the left coronary artery which supplies this region that the most frequent atheromatous degeneration is found. Moreover, here, at the point of the left ventricle the muscular layers are thin. The tear is usually small, but in one instance it extended from the base to the apex of the ventricle. More commonly, the opening is of a fistulous character, and oblique in direction. There may be as many as five separate breaks. The rupture is not necessarily followed by immediate death; there are cases in which the symptoms have persisted for hours or even days, probably, owing to the fact that a small laceration has occurred and which has gradually extended.

In a number of cases death occurs suddenly, without any premonition; in other cases, precordial distress, pain in the left side, and signs of cardiac trouble have preceded the fatal illness for days or even weeks.

The determining cause is not infrequently severe muscular exertion. Emotion, as excessive grief or excessive joy, though popularly believed to be frequently the cause of a broken heart, is in reality rarely mentioned as a determining factor. Undoubtedly, the direct cause of death is compression of the heart by the effused blood within the pericardium. Spontaneous healing is scarcely possible when the perforation is direct or complete. But there is a case on record in which the pericardium adhered around the orifice with the production of an aneurismal sac, which finally led to death by perforation into the pleura.—*Med. News.*

Poisoning with Cyanide of Mercury.—At the meeting of the Berlin Medical Society, November 21, 1888, (*Deutsche Med. Wochenschrift,* November 29, 1888), Virchow demonstrated specimens from a case of poisoning with cyanide of mercury, which presented a series of anatomical changes analogous to those described by him as occurring in poisoning with corrosive sublimate. The patient from whom the specimens were taken was a young man who had poisoned himself, but who survived eight days, so that the changes produced by the poison were very completely shown. The parts of the digestive apparatus above the pylorus, with which the poison came in contact first, presented no noteworthy changes of any kind, and especially no traces of erosion. The more marked changes began in the lowest section of the ileum. In a characteristic manner the affected areas occur at intervals, always on the flexures of the colon, while between these areas are comparatively normal stretches of tissue. The kidneys throughout the cortex, but preferably the convoluted tubules, are filled with lime to a much greater extent than in any of the cases hitherto described. Virchow explains this result by saying that the mercury had acted upon the bones so that the lime salts were set free in the circulation; thence they were carried to the kidneys, which were inflamed by the effort at excretion.

Aortic Aneurism after Galvano-Puncture.—Dr. Ralfe exhibited a specimen, showing the effect of galvano-puncture on the sac of an aortic aneurism. The patient was admitted under Dr. Ralfe's care in September, 1887, into the London Hospital, and died in August, 1888. When admitted the aneurism had already made its way through the cartilages attached to the sternum, and the skin was already assuming a deep livid hue, whilst the pulsation was extreme. It was considered that the aneurism would shortly rupture externally. To relieve the extreme pulsation, Dr. Ralfe suggested galvano-puncture, which was performed by Mr. Mansell-Moullin. Improvement followed the operation, the swelling subsided and became harder, and the skin lost its livid hue. This improvement lasted some time, but presently the pulsation returned, and the patient was troubled with a violent paroxysmal cough. Galvano-puncture was again resorted to, and again the pulsation diminished and the tumor became harder, while the cough disappeared. In all, galvano-puncture was resorted to thirteen times, and always had the effect of giving relief to the patient. Finally, after nine months of treatment, a pustule appeared over the seat of an old puncture, and from that time adhesion took place between the skin and the tumor, and perforation slowly ensued; but, instead of a violent hæmorrhage, comparatively slow oozing took place, and the patient gradually sank from weakness, without experiencing shock or pain. Dr. Ralfe claimed for galvano-puncture in suitable cases (*a*) prolongation of life in rapidly progressive cases; (*b*) relief of pain, undue pulsation and of paroxysmal cough; (*c*) the probability of an almost painless death, owing to the slow oozing from the thickened sac, instead of a sudden rupture, which, if it occurred internally, must be for a short while extremely painful.—*Brit. Med. Jour.*

Accidental Rashes in Typhoid Fever.—In a paper upon this subject read before the Section of Medicine of the Royal Academy of Medicine in Ireland, Dr. John William Moore sums up his conclusions as follows:

1. Not infrequently, in the course of typhoid fever, an adventitious eruption occurs, either miliary urticarious, or erythematous.

2. When this happens a wrong diagnosis of typhus, measles, or scarlatina respectively may be made, if account is not taken of the other objective and subjective symptoms of these diseases.

3. The erythematous rash is the most puzzling of all; but the prodromata of scarlet fever are absent, nor is the typical course of that disease observed.

4. This erythema scarlatiniforme is most likely to show itself at the end of the first or in the third week of typhoid fever.

5. In the former case it probably depends on a reactive inhibition of the vaso-motor system of nerves; in the latter on septicæmia, or secondary blood poisoning; or both these causes may be present together.

6. The cases in which this rash appears are often severe; but its

development is important rather from a diagnostic than from a prognostic point of view.

7. Hence, no special line of treatment is required beyond that already employed for the safe conduct of the patient through the fever. —*Dublin Journal of Medical Science.*

THE ALLEGED INCREASE OF CANCER.—Apart from the purely surgical interest attaching to the Morton Lecture on "Cancer and Cancerous Diseases," delivered on the 26th ult. by Sir Spencer Wells before the Royal College of Surgeons, the lecture contained in its opening remarks some important statistical information tending to prove that such diseases are on the increase in Great Britain and the United States. Thus in England, during the twenty-six years, 1861–87, the mortality of cancer has risen from 360 per million of the population to 606—an increase which Sir Spencer Wells truly remarked is far more than can be attributed to improved registration. In Ireland, although the total mortality does not show so striking an increase, yet when this is corrected by reference to the diminishing population of that country, the proportional increase per million is almost as striking as that for England—viz., from 1864 to 1880 an average annual rate of 676, and from 1881 to 1887 a rate of 873. In Scotland the proportion of deaths from cancer is larger than in Ireland. A like increase in mortality from cancer during the last decade is noted in the United States. It is obvious that improved diagnosis of malignant disease and greater accuracy in making returns do not suffice to explain the rise in these figures, and Sir Spencer Wells deserves thanks for strenuously urging the importance of more detailed statistical returns, especially as to the organs primarily affected, the ages and sexes of the subjects, and the districts in which the various forms of cancer most prevail. A question on this subject was recently put in the House of Commons. Mr. Ritchie's reply, that the medical officers of the Local Government Board were too much occupied to undertake the inquiry, implies the necessity for an improved system of returns made to the Registrar-General.—*Boston Medical and Surgical Journal.*

DR. ROLLER has enriched our pharmacological knowledge by an interesting study of the action of opium on menstruation. Cessation of menstruation has repeatedly been noted in lunatics on the administration of opium, and particularly of morphine hypodermically. Roller's attention was first called to this fact by the observation that a diminution or cessation of morphine injections brought about the return of menses which had been absent for a year or longer. Roller has published a number of cases in which the suppressing influence of opium and morphine on menstruation is fully illustrated. One case is particularly striking. A woman, æt. forty-two years, afflicted with hypochondriac melancholia, received five drops of the tincture of opium three times a day; later she received as much as thirty drops, and finally daily injections of morphine for a long period. Menstruation ceased for nine months, and later, after the discontinuance of the injections, they returned spontaneously. The author narrated four other cases in which a mere diminution of the number of injections occasioned the return of menstruation. Roller has, on the other hand, used both opium and morphine successfully in profuse menstruation. Thus far there are no statements in medical literature concerning the suppressing influence exerted by those narcotics on menstruation. Röhler ("Hand-book der Therapie and Materia Med.," p. 1047) says: "There is nothing known concerning the influence of morphine on menstruation." Kleinwachter (vide "abortus" in Eulenberg's Realencyclopædie) says: "In abortion opium has no action whatever." Schrœder is reticent on the subject. In the text-book of Nothnagel and Rossbach we find the statement that in chronic morphine poisoning amenorrhœa is frequently observed. It has, of course, been long known that both opium and morphine slow the pulse by cerebral irritation of the pneumogastric veins.

Horsley (British Medical Association) recommended in operations of the brain the use of morphine hypodermically prior to the anæsthetic, as that agent caused a considerable arterial contraction, and thus caused a saving of the precious fluid. Lutand recommended morphine in uterine diseases complicated with profuse bleeding, as he had noted that women addicted to the use of morphine did not menstruate at all.

The observations of these authors ought to induce practitioners to try the exhibition of opium or morphine in cases of profuse menstruation.

TREATMENT OF ACUTE CORYZA.—Dr. F. H. Potter, Lecturer on Laryngology in the Medical Department of Niagara University, makes some timely remarks on the treatment of acute coryza in the *Buffalo Medical and Surgical Journal*, January, 1889. He considers pernicious the prevalent custom of sleeping with the windows open when the external temperature is below a certain point. At this time the temperature may suddenly fall, or through some restlessness on the part of the sleeper he may expose a part of his body to rapid cooling, and so contract a coryza. A cold bath should be taken in the morning in a warm room. If a bath-room is convenient, the water should be drawn and allowed to stand over night. The bath should be taken rapidly, so that the whole body will glow afterward.

No part of the body should be under-clothed or over-clothed. It is important to keep the feet warmly covered, and to remove outside wraps upon going indoors where the atmosphere is warm. The neck-scarf should be worn according to the temperature of the day, when its use has become necessary to the wearer. Chronic affections of the nose and throat should be treated, for in patients so afflicted acute attacks of coryza may be only symptomatic of the chronic disorder.

If the cold comes on toward evening the patient should take a hot bath, then 1-100 to 1-60 of a grain of atropine, and go to bed and be well wrapped up. If the atropine should disagree, a full dose of quinine, about ten grains, may be substituted. During the next day the nose and throat should be thoroughly washed with a warm alkaline spray. But a better plan is to employ the post-nasal syringe for irrigation; contract the turgescence of the nasal tissues with cocaine, and, finally, cover the entire surface with a coating of an unirritating oil. For this purpose he has found *oleum petrolinum* (fluid cosmoline) the best. The applications should be made three times a day. If the cold is first noticed in the morning, the process should be reversed—the local treatment given during the day and the general treatment at night.

By this method of treatment he says that colds which generally last from ten days to two weeks can be limited to about two days. When it fails some chronic intra-nasal disease will usually be found, or else some constitutional disorder which makes the attack of extraordinary obstinacy.

CLINICAL RECORDS.

TREATMENT OF TIGHT URETHRAL STRICTURES. By Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Clinical Surgery in the Victoria University.

The circumstances under which retention of urine occurs in the male are so varying that it is impossible to lay down general rules for its management, other than, where practicable, the employment of the catheter with as little delay as possible. In the majority of instances where retention happens in connection with a urethral stricture the relief thus afforded is not only sufficient for the emergency, but serves as the starting-point for the local treatment which in due course is to follow. Hence in those cases where, from a variety of causes, retention of urine supervenes upon the slighter forms of urethral stricture, the introduction of the catheter followed by the appropriate local treatment—such, for instance, as gradual dilatation—generally suffices. The cases now under notice differ importantly from these, both in the conditions under which retention presents itself and in the treatment to be employed. I refer to the severest forms of organic stricture, where, by the conversion of more or less of the urethral wall into a mass of tissue in every respect resembling the worst kind of cicatrix, not only has the urethra been reduced to the smallest dimensions compatible with the escape of urine from the bladder in drops, but the bladder and associated parts are also in a condition of active inflammation. The processes to which I have thus referred are of a gradual kind, and, as a rule, the result of months, or even years, of continued neglect. It is remarkable how often we meet with instances of this kind, where persons have gone on, hoping, I suppose, against hope, and quite regardless of the increasing difficulty with which their urine was obviously voided. The conditions here are very different from those where retention supervenes upon spasm of a more or less transient kind. Taking the cases I am now passing under review, in the course of time one of two things happens: either abscess in immediate relation with the stricture, which may open either with or without extravasation of urine, or complete retention of urine. It is with the latter contingency I am now dealing. The best that can be hoped for under the condition thus sketched out is that the surgeon will be able to pass a small catheter through the contraction, and thus relieve the urgency of the retention. Let us now take a case where the operator has succeeded, probably under an anæsthetic, in passing a No. 1 metal English catheter through a densely contracted stricture of half an inch or more in length, and that he has verified his position (1) by the escape of urine in drops by the catheter, and (2) by his finger in the rectum. The instrument is firmly grasped by the stricture, and there can be no doubt as to the correctness of its position. Will this expedient serve to meet all the exigencies of the case, even supposing that the urine can be slowly drained off in this way? To tie such an instrument in the bladder, and to leave the urine to drain away indefinitely, is, I am sure, a most hazardous proceeding, though it may be accepted as an alternative. In all these cases more or less acute cystitis has been in existence for some days, and the urine is high-colored, offensive, and loaded with deposit, and what could thus be done would be to drain off the most fluid and least harmful of the contents of the bladder, leaving the more poisonous remainder to add to the mischief already going on in the bladder, ureters and kidneys. Such a plan usually ends with the death of the patient in a few days of what may with truth be called a catheter fever.

A considerable experience in the class of cases coming under this category has taught me very forcibly that the introduction of the small catheter must here be regarded only in the light of the initial proceeding. In addition, the bladder must be put in a position for thoroughly draining itself, otherwise the patient's chances of recovery are exceedingly small. Where there is a perineal tumefaction indicating that suppuration is occurring, no question can then be entertained as to the immediate necessity for perineal section. The small catheter will serve as a guide, and upon it the stricture can be completely divided, though the proceeding is easier when a grooved staff, however small, can be substituted. Where there is a fear as to the possibility of being able to make this change, the catheter should be utilized as a guide for the incision. I have often used a small metal catheter under such circumstances, and have never had much difficulty in completing the operation of perineal section, with division of the stricture, to my satisfaction. When the perineum is opened in the median line, far more can be done with the index finger as a guide than is generally supposed, so long as we have the means of ascertaining the precise line the urethra takes. When, however, there is no perineal tumefaction, and the catheter is merely persistently grasped within a hard fibrous stricture, other means must be taken at once to bring up the calibre of the urethra to something like its natural dimensions, so that the bladder may be thoroughly drained of all its contents. The mode of doing this will be best illustrated by the narration of the following selected cases, where the same object was aimed at, but in different ways. I have very little preference for any one way of bringing the contracted urethra up to its normal dimensions so long as thorough urine drainage and cleanliness can be obtained. These are the most important factors in the antiseptic surgery of the urinary organs.

The first case I will relate is that of a gentleman who had been suffering for some years from a traumatic stricture of the urethra following an injury to the perineum. He had had many attacks of retention when abroad. Catheterism was always difficult. He had been aspirated several times above the pubes, and on one occasion before I saw him had perineal section performed. The last operation had not been a success. When I first visited him he was not suffering from retention, but only a No. 1 English metallic bougie could be passed through an extremely hard stricture. I then advised that perineal section should again be practiced, but upon somewhat different lines from the proceeding he described to me. However, nothing was then done, and I heard no further about him for some months, when I was asked to see him for urgent retention of urine, where catheterism had been attempted, but without avail. Under chloroform and with difficulty, I passed a No. 1 metallic catheter, and this, with much patience, was gradually increased up to a No. 4 English. This, with some misgivings on my part, was tied in. The stricture, however, was so tight that I feared the catheter might give way in my attempt to increase the size. In the early morning the instrument became plugged, and was eventually withdrawn. Further attempts were made at catheterism, but without avail, and I was again summoned. Returning, I took with me a fine stricture stretcher, elsewhere described,* by means of which I succeeded in dilating the stricture up to a No. 13 English. A full-sized catheter was then passed, and the bladder emptied of its most offensive contents. As the patient lived in a rather inaccessible position, the catheter was tied in and retained for three days. This process of divulsion was the course of proceeding which in the first instance ought to have been practiced; as I had no instrument of this kind with me sufficiently fine for this purpose, I reluctantly contented myself with retaining the small catheter. I saw this patient a month afterwards. His urine was voided in a full stream, and was healthy. I passed a No. 12 bougie for him, and taught him how to do this for himself.

The next case is that of a man æt. twenty years, who presented himself at the infirmary a few months ago with a very tight stricture of some years' duration, for which he had received no previous treatment whatever, in spite of the gradual diminution in the size of the stream. He appeared to have been drinking heavily. His stricture was very fibrous and contracted, and I could not pass even the smallest metal catheter. However, I succeeded in getting through with the fine filiform bougie of a Maisonneuve's urethrotome. In this way I was able to perform an internal urethrotomy, and then to empty his bladder of a quantity of most offensive urine with a large catheter. The patient would not remain in hospital; he was, however, brought back in forty-eight hours in a state of delirium tremens, but passing his urine freely. He remained in the hospital for ten days until this complication was over, when he was discharged, passing urine normally and able to introduce a full-sized bougie for himself.

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* "Lectures on Urinary Diseases," third edition.

The third and last case I shall introduce was also recently admitted into the Royal Infirmary. It was that of a man æt. thirty-two years, who had long suffered from stricture, and had undergone some operation for it in hospital seven years previously. The meatus of the urethra was involved in a cicatricial mass connected with the foreskin, and in addition there was a long fibrous subpubic contraction. He had extreme retention of urine, which had evidently been only very partially relieved by the introduction of a small catheter prior to his admission. With much difficulty, owing to the double nature of the obstruction, I could only succeed in passing a No. 1 metal Lister's bougie. This was most firmly grasped. Under an anæsthetic I managed to introduce the entire series. The bladder was then emptied of much offensive urine by a large catheter. The stricture at the orifice was freely divided with a probe pointed bistoury. This patient convalesced rapidly, and was able to leave the infirmary in the course of ten days, passing a full-sized instrument.

In connection with these cases there are some details to which I would refer, as I am satisfied that much of the success attending them, as well as of others of a like kind which have come under notice, is due to their recognition. Every care was taken to prevent the occurrence of any form of urethral septicæmia, as indicated by the occurrence of rigors and fever following the performance of the operation that was selected. This consisted in the employment of local and general measures. As soon as the bladder was emptied with a large catheter, it was thoroughly washed out with a perchloride solution of 1 in 5000; three or four ounces of this fluid were left behind, so that the first urine which was spontaneously passed was largely impregnated with this antiseptic. As a rule, no catheter is tied in, nor can I remember an instance where its subsequent introduction became necessary. Before the patient is sent to bed the urethra is distended with carbolic oil (1 in 20), which is well rubbed into the part where section or divulsion may have taken place. Five-grain doses of quinine are given every four hours; in some instances boracic acid appears to have answered equally well. They seem, by sterilizing the urine, to prevent rigors and fever.

For rapidly dilating very fine tight strictures, I have found Bank's filiform bougie of great service. It is an instrument that is well known in America, but not in this country. It is made of highly polished whalebone, on the principle of the wedge, and can be used with great safety. When completely passed through the stricture, a much larger-sized ordinary catheter or bougie can usually be made to follow easily.

It is not to be assumed that the treatment this class of cases immediately received, as illustrated in the three cases selected, represents in each instance that which was considered best so far as the future of the stricture was concerned. On the contrary, I feel sure that in two of the illustrations perineal section with complete external division of the stricture would have given far more reliable permanent results, and may yet have to be brought under consideration. Retention of urine, however, sometimes happens where the surrounding conditions render the performance of such an operation, on an emergency, quite out of the question. It is in view of this that I have ventured to illustrate how in my own practice it has been found possible to tide over the difficulties which attend this complication when it occurs in connection with the worst forms of organic urethral stricture.

Liverpool.

PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

February 5th, 1889.

DISCUSSION OF DIPHTHERIA CONTINUED.

In accordance with the By-Laws, the President of the Association occupied the evening with the three following papers:

I.

EVOLUTION OF COMMUNICABLE DISEASE AND ITS MANAGEMENT.

By E. R. SQUIBB, M.D., of Brooklyn, N. Y.

The thorough discussion of the character and management of diphtheria by this Association has demonstrated the fitness of this disease to serve as a type and illustration upon which to base some generalizations and some reasoning which may be both in time and in place here.

Diphtheria appears to have been slowly evolved during the past three centuries by a gradual, molecular accumulation or grouping of its elements, just as chemical elements group themselves into new molecular forms under new conditions. Constituent characteristics of the now specific disease came together from time to time, first in sporadic cases, then endemically, and finally in epidemics; but, only in the early part of the present century acquiring sufficient identity to be recognized as a specific disease under its present name.*

Then, as named by Bretonneau from one of its most constant products, it was still short of its present character. Its epidemics were numerous enough, but with no distinct evidence of communicability. Even when it invaded this country as late as 1857 or thereabout, it rarely appeared to be contagious. Now it is recognized by all as a most definite, specific, contagious disease. In short, diphtheria has been evolved from scattered elements into a concrete disease within a period of time that is traceable in the history of medicine. A period in its history is easily reached when there is no mention made of its communicability. Then it became of doubtful communicability. Now it is undoubtedly contagious by means of its products. How did this communicability arise? It is the most important characteristic of the disease, because without communicability it would be comparatively harmless.

Here then is a specific disease which has been acquired by the human race during the few centuries embraced by intelligent medical history; and its most important characteristic; namely, its contagion, has been acquired within a single century, and has within that time grown to its present degree. Other diseases seem to be acquiring communicability in the same progressive way—pneumonia and phthisis, for example—and another century may bring these to a degree of communicability equal to that of diphtheria now, and may advance diphtheria to the degree of small-pox.

If health be the normal condition of the race, then disease is abnormal; and if such abnormality be acquired, it follows, that under other and better conditions, diphtheria would not have been acquired as early, or might not have been acquired at all. Again, under such better conditions the communicability of the disease might have been developed at a later period of its age—might have progressed more slowly—or might not have been acquired at all. The agency by which it is communicated or propagated,—the contagium,—could not have existed before the time when it became communicable, or, the condition capable of being impressed by the contagium,—the susceptibility—could not have existed. Therefore this contagium and the susceptibility to it must both have had a beginning and a development or growth. But, a contagium without susceptibility to it, is unknowable; while a susceptibility to disease, as the first step in any departure from normal health, is easy to comprehend, and upon this the beginning and growth of a contagium is easily understood.

If the contagium be a living organism, one of two primary conclusions must be accepted. The organism must have had a beginning, and that is a new creation for each contagious disease at the time when it becomes contagious; but, spontaneous generation is not now accepted; or, the living organism must have been evolved from some pre-existing organism by gradual change of pabulum, and through this change of surroundings (environment), must gradually have acquired its new powers of contagion.

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* As late as 1862 Dr. William Aikin in *The Science and Practice of Medicine*, London, 1863, vol 1., p. 565, seems to have confused other affections with diphtheria—since he says: To wards the middle of the last century it was prevalent in America, and particularly at New York and Philadelphia. "It terminated the life of the celebrated Washington, and of the Empress Josephine."

But this latter conclusion is only logically tenable on the ground that the diseased condition, or the susceptibility to it, endows the organism with the power to propagate the contagium, and thus it really carries the power behind the organism to its pabulum or environment. Then, as the pabulum, which changes and evolves the organism, must precede the changed condition and power of the organism, it is only rational to infer that the pabulum may be the virus of contagion, and the organism may be the consequence and not the cause of contagion.

Or, the pabulum—itself unable to propagate contagion—may so nourish or cultivate the organism as to give to its products the power of contagion.

Again, it is not irrational to suppose that neither the pabulum nor the organism, separately or together, have the power of contagion; and yet the products of the organism, or the combination of such products with the pabulum, may be the contagium.

In any logical, inductive consideration of the acquired power to propagate disease, it must be conceded that the susceptibility, or condition of pabulum, antedates or precedes all other elements in the chain of causation, be these elements few or many, and that the virus of contagion is not simple but complex.

Whatever may be the nature of the virus of contagion, or however potent or perfect or virulent it may be, its action and effects are very inconstant. No case of contagious disease ever effects all who come within the influence of the contagion, as would be required by a perfect contagium. Even in severe epidemics a very small proportion of those subjected to it are affected by it at all in any of its varying degrees. This re-introduces the quality of susceptibility in its relation to the spread of contagious disease.

All the way down the centuries through which disease is evolved, it is constantly opposed by the persistence of the type of normal health—the natural tendency to be well, and to return to health when sick. But throughout these centuries a susceptibility to disease has been gradually acquired against the tendency of normal health to persist, and this susceptibility is more important than the contagion because it generates the pabulum upon which the elements of the virus of contagion originate, and upon which they develop into full power.

The superior importance of this susceptibility is again seen in the self-evident fact that by controlling it at any stage or degree the whole train of disease, including communicability, is controlled.

The management by which increasing knowledge and skill has sought to control disease, has, through a process of evolution, gone on parallel with disease, and has thus brought the race to its present condition of civilization. This management has always been of two kinds. First in order of origin and practice was the control of disease when it occurred; and second, the control of the causes of disease so as to prevent its occurrence. Only in one branch of this last subdivision of management has the progress seemed to be slow, and to have fallen behind the rate of progress of disease. Neither the sickness rate nor the mortality of the earlier ages of life has been reduced in the same proportion as in adult life, and although the lower rate in adults may depend largely on the fittest having survived, yet this does not account for the entire difference. This very important remainder will doubtless be found in the defective management of the health of early life through which the susceptibility to contagious diseases is kept at a high point.

Contagion, however mild or virulent, affects a very small proportion of those exposed to it, and affects the few in various degrees of severity, quite irrespective of the mildness or virulence or the quantity of the contagion. These conditions are expressed by the varying degrees of susceptibility in those exposed to contagion; and this varying susceptibility is but an expression of varying powers of vitality, or of persistence of the type of normal health.

Children are born with an immense power to live and thrive. That power which in 280 days increases the weight of the fœtus more than 280 times, continues after birth. The fœtal mortality rate is very small, and although the mortality rate of the newly born is greater, it is still very small during the first few weeks of independent life, and the susceptibility to disease is very low—not much higher than during fœtal life. All that appears to be needed now is to utilize, economize and continue this momentum of normal vital power, and its consequent low susceptibility, as the condition upon which a normal childhood and adult age are to be expected.

But at birth it becomes optional with the mother whether or not she will continue to nourish her offspring by supplying the natural food of the second stage of life. Occasionally through hereditary descent from mothers who have not nursed their children, or through individual defects, mothers cannot nurse their children. Occasionally they think they cannot, or are badly advised, and do not try. Again, they try, and through want of persistence think they fail: and so on, until now, under one pretext or another, a large proportion of mothers do not nurse their children; while another class, from easily preventable causes, nurse them badly or insufficiently, and thus the mammary glands seem to be slowly degenerating to the rudimentary condition.

Under these circumstances—milk being so plainly the food for all mammalian young,—the milk of healthy animals that have lost no part of either their organs, functions, or instincts of maternity, becomes the natural and rational substitute,—and, fortunately, this substitute is always within easy reach of those classes of the race that most need it. But here mercantile interests, and the ingenuity, plausibility and credulity begotten of such interests, come into play, and artificial substitutes for the natural substitute are offered and urged in increasing numbers.

These artificial infant foods, as often as they have been examined with the requisite knowledge, care and skill, are found to consist mainly of flour and sugar, and they are all abnormal and unnatural as applicable to the young, whose natural food is milk.

That no mammalian mother ever produces such mixtures, or anything at all analogous to them, should be a sufficient answer to all their claims and to the certificates of the prominent medical men who counsel their use. Yet their use has become so general that it is quite time to consider their possible or probable relation to the susceptibility of childhood to disease in general, and especially to contagious diseases, like diphtheria.

The influence of unnatural and defective food upon the young is too well known to need discussion. In a large proportion of cases the primary effect seems to be to compel the using up of the reserve stores of vital force, without producing immediate sickness, and generally without appearing to interfere much with the early development, so that there is little or no evidence that the tendency of health to persist through these vital reserves is being used up until infancy is past, and the defective power of resisting disease is shown in a commencing susceptibility.

That the sickness rate is low in early infancy when artificial foods are used, and high after these have been replaced by a varied diet, is not a sound argument in favor of such foods, because by having caused the reserve forces to be used up, and by having vitiated the natural appetite for more wholesome food, the artificial foods may have left little power to resist disease, and this without much apparent deviation from health. Thus a high rate of susceptibility may be cultivated in individuals and in communities, unsuspected because unseen, until shown by attacks of sporadic or epidemic disease, and by the more or less feeble resistance to such attacks.

Whatever weight may be accorded to the above reasoning, certain conclusions having an important bearing upon the management of communicable disease, can hardly be avoided.

First—Susceptibility to disease must precede diseased action; and the causes of disease, whether communicable or not, must be evolved from this susceptibility.

Second—This susceptibility is acquired upon a normal basis of health, which basis has a normal tendency to persist or to resist, and therefore the susceptibility is preventable.

Third—This susceptibility varies in degree from insusceptibility up to the highest rate; and the degree of activity or virulence of contagious virus must coincide with the degree of susceptibility in the production of disease, either factor being impotent without the other.

Fourth—In controlling susceptibility, the virus of contagion and other causes of disease are necessarily controlled.

Fifth—Susceptibility is acquired gradually and imperceptibly through a process of evolution, and its control or management must be through a similar process.

The practical deductions to be drawn from these conclusions constitute the object of this note.

Without any relaxation of effort for the treatment of communicable disease as it occurs, for the destruction of the virus of contagion, and for the protection of susceptible individuals; persistent effort should be made in another direction not commonly considered; namely, to lower the rate of susceptibility. In every community physicians see examples of successive generations of well-ordered lives in the rearing of offspring in a rational, nearly normal way, and see that in a broad average such always show themselves fittest to survive. All such examples, and all that approach them, should be encouraged, supported and multiplied.

One of the increasing defects of late generations seems to be want of proper parental discipline and training of the young. Education without power behind it to enforce its teaching is not sufficient to restrain from injurious inclinations and appetites.

Children are perhaps very generally taught that self-denial, and not self-indulgence, must be the order of well-lived, healthy lives. Yet upon this teaching the cultivation of perverted appetites and the indulgence of them, is the common practice; and as candies and cakes take the place of more simple and wholesome natural food, artificial digestives are required, and conditions are gradually established upon which disease is more frequently and more easily acquired, and upon which disease itself is gradually developed and intensified into a more frequent and more easy communicability.

The doctrine that disease is penal, and that as a penalty it is always earned and always sure, is not only true upon the grand scale of the past ages, but is a good working hypothesis for the present time. The practical utility of the doctrine is however much weakened by the circumstance that the offences of one generation are entirely or mainly punished in succeeding generations. In this remoteness of causes from their consequences, their connection fails to be realized at its actual value, yet all vital processes are based on absolute justice and truth, and, as is well said by Emerson, the universal law of transgression is retribution.

Hence it would appear that the control of disease must be by a process of evolution incited and fostered mainly in the management of the young, that is, of the commencing generations, where control is at once easiest and most effective.

It is said of Dr. Oliver Wendell Holmes that when asked how early the training and discipline of children should begin, he replied, in substance, very early indeed; with their great grandparents; an answer that is as full of wisdom as of wit.

II.

DISINFECTION BY BURNING SULPHUR.

BY E. R. SQUIBB, M. D.

Under the head of Prevention Dr. Segur asks what are the important measures of prevention; and among these may certainly be included the disinfection of infected apartments.

Perhaps the most common measure for the disinfection of apartments which have been infected by diphtheria and other contagious diseases, is the burning of sulphur. This mode of disinfection has been in active use for more than a hundred years and many epidemics of contagion are supposed to have been controlled by it. Of late years, however, its efficacy and utility have been called in question by several prominent authorities on the ground that it does not prevent the development of the spores of several microbes supposed to be pathogenic of important contagious diseases.

If it be admitted that the burning sulphur was properly applied, and that the propagation of the spores is positive proof of persistence of contagion, then the question must be considered as settled and the practice should be abandoned. But as the first of these propositions, at least, cannot be safely admitted in the attempts at disinfection as commonly practiced; and as the method is continued by Boards of Health and hospital authorities, as well as in private houses, notwithstanding the evidence against it, it may be useful to re-examine the conditions to be met.

In a given locality there are particles of contagious matter so small as to float in the air, and these settle upon, or become entangled in all surfaces to which the currents of air carrying them have access. For perfect disinfection the contagious element or virus of all such particles must be so changed as to be no longer contagious. This change must be effected either by physical or by chemical action, or by both acting together.

It seems to be absolutely proven that the one element necessary to the activity of all virus is moisture. Desiccated virus is inactive and impassive; and when desiccation is complete or perfect, as by a sufficient degree of heating for a sufficient length of time, the change is such that the re-supplying of moisture does not reproduce the contagion.

But moisture is an element of varying degree. Too much, by dilution may weaken active virus to absolute inactivity, as too little may weaken it to practical destruction.

Contagious matter or virus which is only sufficiently dry to be thus rendered inactive and impassive, becomes active by contact with moist surfaces, and thus moisture becomes the essential element in its contagiousness by supplying the conditions under which its molecules can resume the function of propagation or generation. This same element moisture, which is necessary to enable them to propagate contagion, is equally necessary for any reaction with agents which have the power to so change their molecular structure as to destroy their capacity for contagion.

Hence all disinfectants require the presence of moisture, and require it in a degree sufficient to enable all the molecules of contagious matter to commingle and react with the molecules of the disinfectant. If the moisture be sufficient in amount it matters little whether it be held by the virus or by the disinfectant, but the reaction will be much more sure and more prompt if each of the reacting substances be fully saturated with moisture. If either agent be dry or nearly dry, the reaction will be proportionately slow and imperfect.

The condition of the contagious material of an infected apartment, although not absolutely dry, has only the moisture of the common atmosphere, and if there was any such thing in the living animal as a dry surface there could be no infection from such air dry contagious material.

An air dry disinfectant or antiseptic is equally inactive and impassive, and for the same reasons, namely, the absence of the physical and chemical conditions for reaction.

When sulphur is burned in air a dioxide of sulphur is formed. One atom unites with two atoms of the oxygen of the air to form an anhydrous, or perfectly dry gas which occupies practically the same space as did the oxygen combined. This sulphur dioxide is therefore a heavy gas, and as it cools after being formed by the combustion, it falls, so that any enclosure in which it is formed will fill up from the bottom as it would with water, and but for the laws of diffusion of gases, an enclosure might have the pure gas at the bottom and none at the top. The laws of diffusion, and the currents of air and gas caused by the heat of combustion, do however carry the gas to all parts of an enclosure and yet the gas is in greatest proportion near the floor, and any leakage there, as under the doors for example, will waste much more gas than the same openings higher up.

The sulphur dioxide formed is a perfectly anhydrous or dry gas and is therefore called sulphurous anhydride. It is not an acid, but is an indifferent, inactive, impassive gas, showing but a feeble tendency to combine with anything, or to exert any power. It has a moderate affinity for moisture and when one molecule of the gas combines with one molecule of water sulphurous acid is formed; when combined with more than one molecule of water a liquid sulphurous acid is formed of a strength proportionate to the amount of water. This solution of sulphurous acid is commonly called simply sulphurous acid, and as found in the markets it commonly contains from 3 to 6.5 p. c. of true sulphurous acid or the compound molecule made up of one atom of sulphur, two atoms of oxygen and one molecule of water. This sulphur dioxide, or sulphurous anhydride plus water, or sulphurous acid, unlike the inactive dioxide, is a very active and very potent substance, and its prominent characteristic is its affinity or appetite for oxygen, by which it is converted into sulphuric acid. This affinity for oxygen by which it takes that element from all its looser combinations, makes it a powerful deoxidizing agent. And, by taking oxygen away from its looser combinations in the infective matters, it breaks up their complex molecules, destroys their power of contagion, and thus becomes disinfectant. Again, instead of taking away oxygen from compound molecules it may unite with this oxygen and thus form sulphuric acid as a new component of the compound molecule, changing this so as necessarily to destroy it and therefore be disinfectant.

All this detail is to show that sulphur dioxide, resulting from burning sulphur in the air, is not a disinfectant, but requires the presence of moisture either with the sulphur dioxide, or with the infected matter, or with both. And farther, that in proportion to the amount of moisture up to what would be a very large dilution, the more there is present the more perfect are the conditions for thorough disinfection; and the less moisture there is present the more imperfect the disinfection.

Now, if the practice of Boards of Health and other authorities be examined it seems to be very defective indeed, unless they use an abundance of watery vapor without thinking it worth while to mention it in their directions and practice.

The common usage seems to be to close up the infected apartments as thoroughly as practicable and to burn sulphur in them in the proportion of 4 pounds of sulphur to each 1000 cubic feet of space.

There are no directions to stop up the lower chinks more carefully than the upper ones, while the lower half of a door will waste twice as much gas as a window. The sulphur is usually put in an iron pot or pan, and this is set in a larger vessel of water, or upon a vessel of wet ashes or sand; and this seems to be done to lessen the risk of fire rather than to supply vapor of water. The sulphur is lighted by means of alcohol poured upon it and lighted, and the apartment is then closed and watched until the sulphur is burned out. The dioxide formed finds a little moisture in the normal atmosphere of the room, and thus a small proportion of it gets converted into the active sulphurous acid. Then the heat of the burning sulphur vaporizes a portion of the water in the vessel in which it is placed. Under favorable conditions the amount of water thus vaporized may equal or slightly exceed the weight of the sulphur burned. But under general conditions it will be much less. These two sources being the only ones from which moisture is supplied, and the amount supplied being very much too small, it is only reasonable that the disinfection should be proportionately incomplete, and under such conditions any condemnation of sulphurous acid as a disinfectant is unsound and irrational.

The conditions for a much better application of this agent are very easily supplied. To fumigate with the active sulphurous acid, instead of the inactive dioxide of sulphur, it is only necessary to evaporate water to the extent of three or four times the weight of the sulphur burned, or to wet the surfaces to be disinfected, or both, so that plenty of moisture may be present during the burning of the sulphur. A shallow pan of water upon a kerosene stove well started in advance of lighting the sulphur, and the floor, ceiling and walls well sprinkled with water by means of an ordinary dust brush is perhaps as good a practice as any.

There is abundant evidence on record that sulphurous acid in small amount is destructive to all the lower orders of animal and vegetable life, to all fermentations both vital and chemical; and, all that the more recent elaborate investigations seem to have shown, is, that the spores or germs of certain microscopic organisms were not destroyed by it as applied to them, even in the presence of abundant moisture in some of the trials. Many of the late investigations have been made with very great care and labor and by modern accurate methods. Some of the best results are however confusing, if not contradictory, and therefore are inconclusive, even in regard to the resistance of spores.

Chiefly from the above mentioned considerations the writer reaches the conclusion that burning sulphur for disinfection should by no means be abandoned, but should be more thoroughly and more carefully applied.

Not only in diphtheria, but in all infectious diseases some such disinfectant is greatly needed in preventing the spread of disease, and diminishing the risks of susceptible persons, and no other method has yet been proposed that is more effective, more simple or of easier application.

In the less convenient and more costly method of disinfecting by gaseous chlorine the same principles apply and the same conditions are necessary. Dry chlorine gas is as inactive as sulphur dioxide, and from deficient supply of moisture the one will fail as often as the other.

When chlorine is generated from common salt by means of dioxide of manganese and sulphuric acid, the salt and manganese are commonly mixed into a thin paste with water before the acid is added. Then on adding the acid much heat is developed and a proportionate amount of water is evaporated and disengaged with the chlorine. But this amount of water is far too small for the full effect of all the chlorine, and unless all the surfaces be well wetted, and steam be supplied, the disinfection will be defective.

If the walls and ceilings of apartments be kalsomined, or be covered with any other preparation of glue or paste, these should be scrubbed off clean with hot water before the disinfection, because disinfection does not destroy the tendency to putrescence in gelatine, glue, paste, etc.

III.

On the Medicinal Uses of Hydrogen Peroxide.

By E. R. Squibb, M.D.

Throughout the discussion upon diphtheria very little has been said of the use of the peroxide of hydrogen, or hydrogen dioxide, yet it is perhaps the most powerful of all disinfectants and antiseptics, acting both chemically and mechanically upon all excretions and secretions so as to thoroughly change their character and reactions instantly. The few physicians who have used it in such diseases as diphtheria, scarlatina, small-pox and upon all diseased surfaces whether of skin or mucous membrane, have uniformly spoken well of it so far as this writer knows, and perhaps the reason why it is not more used is that it is so little known and its nature and action so little understood. Until within the last few years, except in a few manufacturing processes, it was chiefly known as a chemical curiosity, rarely seen because difficult to make. Too long known to be a good subject for a patent, or for any kind of excitement, it was not made in large quantities and most of it went to secret uses. The fact that upon principles well established, it was a most active disinfectant and therapeutic agent, seemed to count for very little. Now, however, it is made in large quantities by several manufacturers, and is quite accessible to those who choose to take a little trouble to get it of good quality.

In order to use it intelligently both the pharmacist and the physician must know something of its nature and properties. The name hydrogen dioxide expresses its composition, and its formula H_2O_2 represents this name. Hydrogen monoxide, H_2O, or water, can under certain conditions be made to combine with a second molecule of oxygen, the result being a water-like liquid H_2O_2.

This second atom of oxygen is very loosely combined, and the compound molecule is always on a strain to break up into water and oxygen, and when it breaks up either slowly or rapidly the oxygen separates in that nascent or most active and potent of its conditions next to the condition known as ozone. It is in the change of this breaking up into water and active oxygen, that the latter element exerts its power, and the simple contact with organic matters, which are themselves of complex nature and in condition to be changed, is sufficient to break up the dioxide and liberate the active oxygen. For example some albuminoids are instantly changed by contact with hydrogen dioxide, as is shown by rinsing the mouth with a dilute solution, when the abuminoid matters of the secretion are at once coagulated. Then as all virus is albuminoid, whether propagative or not, it is destroyed, or by coagulation rendered inert, by simple contact with this agent, just as it is by contact with corrosive sublimate. This simple experiment of rinsing the mouth with a dilute solution of hydrogen dioxide and examining the discharged liquid can hardly fail to convince any one of the destructive potency of this active oxygen on some albuminoids, and of its thoroughly cleansing effects upon the mucous surfaces.

Now, if diphtheria be at first a local disease, and be autoinfectious—that is, if it be propagated to the general organism by a contagious virus located about the tonsils, and if this virus be, as it really is, an albuminoid substance, it may be and will be destroyed by this agent upon a sufficient and a sufficiently repeated contact.

The undiluted liquid hydrogen peroxide is from its nature very unstable, and breaks up on very slight disturbance with almost explosive rapidity. Hence it is never made nor used undiluted, but is always dissolved in, or diluted with, water; and what is known in common parlance as "peroxide of hydrogen," and prescribed and dispensed as such, is really a solution of the liquid in water containing a small proportion of hydrochloric acid, the acid being useful, or rather indispensable in protecting or preserving the solution from rapid change. The strength of the solution is commonly indicated by the volume of active oxygen that a similar volume of solution will yield in use. For example a solution that will yield its own volume of active oxygen is called a one-volume solution, and from this strength up to a solution yielding fifteen times its own volume, is the practical limitation of the market. The best makers generally send out a fifteen-volume solution and the strength by volumes is given on the label. This solution labelled simply "Peroxide of Hydrogen," is put up in pint bottles which contain about 15 fl.℥ or 15 avoirdupois ounces, and these are sold at $9 per dozen bottles. It is as colorless and odorless as water—or very nearly odorless. The first taste is simply mildly acidulous. Afterward there is an impression rather than a taste, which resembles nothing and is therefore indescribable. It is not a very strong impression nor a very disagreeable one, as made by a fluidrachm held in the mouth for a minute, nor is the changing after-impression very lasting, and it would be generally less objectionable than most medicines. Changes in this solution are indicated by gas bubbles rising through the liquid or adhering to the sides of the vessel, and by pressure within the bottles. At or below 15° C., or 59° F., this solution does not change materially within any reasonable time. But at 20° C., or 68° F., it does change—often pretty rapidly, by giving off its active oxygen and becoming finally reduced to simple water—and, upon the rapidity of this change at body temperature, depends its prompt and energetic action. Hence it follows, that to be effective it must be kept in a cool place. The stock bottle from which the dilutions are made should be kept in a cool cellar or a refrigerator, and the dilutions in use should be kept outside the window in winter or in a bath of ice-water in summer, and when carried from the pharmacist to the patient, the bottle should not be grasped by the warm hand for any very considerable length of time. The bottle may be carried by the neck, or by a string tied around the neck.

The original fifteen-volume solution is never used undiluted. Even as an external application to indolent ulcers or specific sores it is much and variously diluted. Although devoid of danger in application, and hardly irritant at all, it is still useless to apply solutions of a strength greater than needed. A one-volume solution, made with one fluidounce of the fifteen-volume solution in a pint of water, is strong enough for many purposes, but a two fluidounce in the pint, or a two volume solution for children, and a three fluidounce in the pint, or three volumes for adults, are perhaps commonly required. In the administration and management of all solutions the contact of all metals must be avoided, because most metals are rapidly oxidized and taken into solution yielding poisonous solutions. All kinds of spray and injection apparatus can now be easily obtained with fittings of hard rubber or glass, and such only should be used.

A child's nostrils, pharynx and mouth may be flooded every two or three hours, or oftener, from a proper spray apparatus, with a two-volume solution, without force and with very little discomfort; and any solution which finds its way into the larynx or stomach is beneficial rather than harmless, and thus the effect of corrosive sublimate is obtained without its risks or dangers. Adults, and children old enough to gargle the pharynx, and rinse the mouth, will get a better effect in this way, equally without much discomfort, from a three-volume solution, and this applies not only to diphtheria but also to scarlatina and other conditions of mouth and throat which require cleansing and disinfecting. As vaginal injections in cases of uterine cancer, etc., the strength must be increased until the disinfectant effect is obtained. A copious flushing out with a one-volume solution will often be sufficient. When wetted cloths are laid over external sores an over-covering of oiled silk should be used.

As in passing through several hands after leaving those of the maker, a little mismanagement may spoil the solution, some easily applicable tests of quality and strength are needed.

So long as the solution will yield any active oxygen at all, it will give this off with active effervesence when poured onto a crystal or two of potassium permanganate. A solution containing only a quarter of its volume will give an effervescence so strong as to be misleading and therefore a quantitative test is needed. The following is a modification of a testing process given to the writer, with much other useful information, by Mr. Charles Marchand, of No. 10 West 4th St., New York City, one of the oldest and best makers of peroxide of hydrogen, and one who supplies it to all parts of the country.

The standardizing test solution is made by dissolving 1.852 grams of potassium permanganate in distilled water and making up the measure to 500 cubic centimetres. Each cubic centimetre of this solution is equal to one volume of active oxygen when applied to one cubic centimetre of any solution of peroxide of hydrogen.

The test is made by adding to about 50 c. c. of water acidulated with five drops of sulphuric acid, a cubic centimetre of the solution of peroxide of hydrogen to be tested. Into this, with constant stirring, is dropped, from a graduated burette or pipette, the permanganate solution until the color of the permanganate ceases to be discharged. Each c. c. and fraction of a c. c. required to reach this point, indicates one volume and fraction of a volume of active oxygen that is available in the solution tested.

If this agent is to be generally used in the treatment of diphtheria, as it well deserves to be on well established principles of action, it is very important that it be freely applied in the earliest possible stages of the disease, or while it is yet local, and therefore the agent should be easily and promptly accessible in places known to physicians and not over a mile apart throughout a city, and in hands which know the agent well, and know how to keep it from change, and to dispense it on physician's orders.

If all pharmacists should undertake to keep it—or even all the more prominent ones—it would soon share the fate of many other important medicines. Much of it would deteriorate before it could be used, and but little of it would be in a fresh condition, while if much had to be thrown away no price that the pharmacist could reasonably charge for it, would secure to him a proper profit on the portion sold.

REVIEWS.

ATLAS OF VENEREAL AND SKIN DISEASES: Comprising Original Contributions and Selections from the Works of Dr. M. Kaposi of Vienna; Dr. J. Hutchinson, of London; Dr. I Neumann, of Vienna; Drs. A. Fournier and A. Hardy; and Drs. Ricord, Cullerrier, Besiner and Vidal, of Paris; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York; and others. Edited by Prince A. Morrow, A. M., M.D., Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology, in the University of the City of New York; Surgeon to Charity Hospital, etc. New York: William Wood & Company, 1888.

(*Continued from p.* 583).

Fasciculus X., the last number of this series that has been issued by the publishers, deals with psoriasis and eczema of the palm, eczema seborrhoicum, impetigo and dermatitis exfoliativa and medicamentosa. The illustrations are from the standpoint of accurate representations of clinical cases, hardly up to the standard of those previously published. This may be due in a measure to the difficulties encountered in trying to put in a plate, an exact reproduction of eczema. In some respects the representation of the fissures and scales, the first illustration, that of an eczema of the palm of the hand, is perhaps the best offered in this fasciculus.

The text on the treatment of eczema is exceedingly satisfactory. The author sounds the keynote when at the outset he says: "There is no specific for the cure of eczema, and no method of treatment applicable to all cases and all stages of the disease. A knowledge of the cause of a disease is the first step towards the recognition of the therapeutical measures best adapted for its treatment."

As common a trouble as eczema is, there are comparatively few men who recognize this important factor in its treatment and cure—the *cause*. Not only this, but it is the usual thing to see it treated almost entirely by local applications; or, possibly, by the internal administration of arsenic for all stages and forms of the diseases.

The plate representing the eruptions from iodide and bromide of potassium are good enough as far as they go; but as the text is interrupted by the completion of the issue, it is reasonable to suppose that the representations of iodide eruptions given are to be followed by more: at least such a course would be demanded if there were any attempt to do justice to these eruptions. But one would naturally ask why should the first representation of an iodide of potash eruption be a bullous eruption of the hands? for, surely, this, if we are to trust to the testimony of numerous observers, is perhaps the rarest form of eruption caused by the drug.

We are interested to know if the author is going to continue under "dermatitis medicamentosa" illustrations of the varied eruptions caused by other drugs. At least this line of eruptions deserves careful consideration and illustration in order to bring to the mind of practitioners the possible skin troubles caused by drugs, and put them on their guard in the use of drugs capable of causing such disturbances.

As there are five more parts to be published, we may reasonably hope that our expectations are not groundless.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By H. C. Wood, M.D., LL.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System in the University of Pennsylvania. The Seventh Edition of A Treatise on Therapeutics. Rearranged, Rewritten and Enlarged. Philadelphia: J. B. Lippincott Company. London: 10 Henrietta Street. 1888. A work on medical agencies, drugs and poisons, with especial reference to the relation between physiology and clinical medicine.

We noticed in our January issue the appearance of this new form of a work which has long been favorably known to the profession. Indeed, in its old shape it was also as well if not better known in Europe than any book on the same subject by an American author. It is therefore unnecessary to consider anything but the changes. First the name is changed, and the change gives at the outset the keynote to the general bearing of the work. It is essentially "a work on medical agencies, drugs and poisons, with especial reference to the relation between physiology and medicine." In response to the demand on the part of the profession for the presentation of remedial measures other than the administration of drugs, the author has put at the beginning of the book discussions of massage, metallo-therapy, the feeding of the sick, the dietetic and general management of exhaustion, obesity and lithiasis besides numerous miscellaneous remedial measures.

The classification of drugs has been remodelled and the work rearranged in conformity thereto.

As to new drugs, hydrastin, strophanthus, sparteine, adonidine, iodol, ichthyol, paraldehyde, urethran, hypnone, amylene hydrate, methyal, oil of sandal-wood, kawa, extract of malt, papain, antifebrin, salol, bethol, thallin, kairin, acetphenetidin, lanolin, saccharin, sulphurretted hydrogen are discussed—some of them, by the way, not very new, and the articles on cocaine, antipyrin and caffeine have been rewritten.

The author says: "In no previous edition have the amount of change and the thoroughness of revision been so great, and the author believes that as a guide to the treatment of disease the book is much superior to its former self." Such is a brief resumé of the author's statements in regard to the changes and additions.

The first general division is Systematic Remedies and Extraneous Remedies. Of the former he makes two subdivisions: General Remedies and Local Remedies; and of General Remedies he makes three orders: Nervines, Cardiants and Nutriants, and of each of these there are numerous families. Of Local Remedies there are seventeen families; and, however scientific this may be, it would tax the student beyond the point of endurance to try to keep them before his mind's eye. Again it is very hard to say that a drug belongs to this species and not to that, for the simple reason that it may have no true differential characteristic to determine its place in the one and not the other place.

The book has not lost any of the good features that have secured it such an abundant patronage, and has gained many additional ones that will insure a continuance of the same.

TRAITE DES RÉSECTIONS ET DES OPERATIONS CONSERVATOIRES QU'ON PEUT PRATIQUER SUR LE SYSTEM OSSEUX. Par le Professuer L. Ollier de Lyon. Tome II. Membre Superieur, 614 pages. G. Marson, Editeurs. Paris, 1889.

This book is the second volume of a thorough treatise on resections, and comprises all the operations which can be done on the bony frame work of the upper extremity.

There is a historical notice attached to each operative procedure, and this adds greatly to the interest of the book, as well as the valuable chapters on the post-operative treatment of the patient, and on the methods used in palliating or obviating the deformities obtained after operation.

The last chapter is on the growth of the upper extremity, after the various resections, and the causes which may give rise to disturbances in the growth of its various segments.

This interesting volume gives an excellent presentation of the successful results obtained by the author who resected the shoulder thirty times, divided thus: for acute or chronic osteo arthritis, twenty-five times; for irreducible dislocations, twice; for neoplasms, once; for traumatisms, twice.

In the resections for arthritis, one case of death was directly due to the operation. Of the resections after gunshot wounds, which were done on the battlefield, both patients died, the first from cardiac disease three days after the operation, the second ten days after the operation, from an uncontrollable diarrhœa from which the patient had been suffering for four days previous to the injury.

Most of the shoulder joint resections were done on young subjects, twelve cases between the ages of twelve and twenty years, eleven between the ages of twenty and forty years, four between forty to fifty years, and three between fifty and sixty years of age.

Up to December, 1887, Professor Ollier resected the elbow-joint 169 times, with twelve deaths, ten of which occurred in the pre-antiseptic days. Since the introduction of antisepsis, Ollier has made 103 resections of the elbow with only two (2) deaths, giving a death rate of 1.9 per cent. which is a magnificent result, considering that before the use of antisepsis his mortality was 15.38 per hundred. The patients ranged in age from twenty-one months to seventy-two years, and the lesions were more frequently situated on the right side than on the left. His ultimate results are excellent, only two cases of flail-joint and four cases of complete ankylosis occurring in the series.

In the thirty cases in which the elbow joint was resected for orthopædic purposes there were no deaths. Resection of the wrist-joint was done forty-three times, of which five cases died either as a result of the operaion or a short time thereafter. Of the five deaths, two occurred before the days of antisepsis, while from 1877 to 1887 Ollier operated on thirty-eight cases with three deaths; one of these deaths was due to shock, for the patient's leg was amputated at the same time that his wrist was resected; the case was that of severe injury by a fall.

Some of the most interesting chapters in the book are on the partial excision of the bones of the arms, forearm and hand.

The book is well and clearly written, profusely illustrated by 156 wood cuts, and when the third volume will have appeared, it will be one of the most complete if not the most complete treatise on resections. It is fully deserving of the careful perusal of every surgeon.

MEDICAL DIAGNOSIS, A MANUAL OF CLINICAL METHODS. By J. Graham Brown, M.D., F.R.C.P.E., Late Senior President of the Royal Medical Society of Edinburgh. Second Edition, illustrated. New York: E. B. Treat, 771 Broadway, 1888. Price, $2.75.

The above is the title of another member of the series entitled "Medical Classics." The book has probably been selected for republication in this country on account of its conciseness, its brevity, and the importance of the subject with which it deals. It is too well known to need mention that it is not necessary to go outside of our own country to get a work on medical diagnosis, which is unsurpassed by any that has been published; but it may not be within the power of the publisher of this series to reprint that work, or if he did reprint it to do so at as limited a cost as would warrant him to sell it at the price demanded for each member of this series.

But to the book: The author takes up his subject as follows:

1. The General Aspect, Condition and Circumstances of a Patient. 2. Alimentary System. 3. Examination of the Abdomen. 4. Haemo-poietic System—(is not Hæmato the better if not the only correct form). 5. Circulatory System. 6. Respiratory System. 8. Integumentary System. 9. Urinary System. 10. Reproductive System. 11. Nervous System. 12. Locomotory System.

The subjects are satisfactorily treated in a very brief way until the integumentary system is reached. From thence to the end of the book the treatment is too brief, too scattering and altogether not satisfactory. The book, however, will be useful, and the opinions and directions are stated in an attractive and clear manner.

A PRACTICAL TREATISE ON NERVOUS EXHAUSTION (NEURASTHENIA). ITS SYMPTOMS, NATURE, SEQUENCES, TREATMENT. By George M. M. Beard, A.M., M.D., Fellow of the New York Academy of Medicine, etc., etc. Edited with Notes and Additions, by A. D. Rockwell, A.M., M. D., Professor of Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital, etc., etc. New York: E. B. Treat, 771 Broadway. 1889. Price, $2.75.

This member of the "Medical Classics" is a worthy one with which to introduce the New Year. The subject is an interesting one and Dr. Beard's book has become too well known to need more than a mention in the JOURNAL.

We have never liked the title page—a matter by the way of exceedingly small import—for the simple reason that it is tautological. If a work is a "Practical Treatise" on a subject it is but natural to suppose that it will give the "symptoms, nature, sequences and treatment" of the subject of which it treats.

This, however, from an æsthetic rather than from the standpoint of anything material to the usefulness and interest of the book.

The preface is especially interesting in its review of the biography of the subject. We cannot, however, agree with the author in his preference for cerebrasthenia a hybrid word over encephalasthenia a pure word. Again the author wants his work to be "exclusively practical," and for this reason does not consider the *causes* of neurasthenia!

The editor has added about twenty pages in notes of various kinds. The best point he makes is his insistance on the difference between lithæmic and neurasthenic patients. Of the former class he says: "Many of them are unintellectual, phlegmatic and intolerably indolent, and are pleased at a diagnosis which touches the nerves rather than the stomach, bowels and liver. Instead, therefore, of rest, quiet, and soothing draughts, they need mental and physical activity, less rather than more food, depletion rather than repletion."

It is only necessary to refer to the use of much new nomenclature, and to agree with the author in thinking that "where a subject is much discussed, this matter of economy (in nomenclature) becomes a matter of not a little consideration;" and that "(new) names if for no other reason (than) for the sake of economy of time or labor in expressing thought."

Although almost half the book is concerned with the symptoms of neurasthenia, it must be confessed that the diagnosis of the affection as the entity in an individual case is by no means an easy matter.

It is rather curious in the course of the author's excellent disquisition on the "Hygiene of Nervous Exhaustion" to have him say that "the doses (of ergot) indicated in the books are no guide" and not to offer then and there what dosage is to be employed. But we have not the space at our disposal to consider further this interesting and in many respects remarkable book. It is worthy of a place in any "series" and we congratulate the publisher on his choice in this instance.

L'ELECTRO-THERAPIÉ JOURNAL D'ÉLECTRICITÉ MÉDICALE, PARAISSANT TOUS LES MOIS. Fondé et derigé par le Dr. Léon Danion. Prix de l'Abonnement, 15 fr. 11 Rue de Mogador, Paris.

It gives us pleasure to make note of this procedure in the direction of scientific therapeutics.

This journal is devoted to the publication of theoretical and practical essays on the subject of electro-therapeutics. Its articles are not restricted to the domain of medicine or to that of surgery, nor yet to any specialty in these departments.

In looking through its pages we are struck by the multiplicity and variety of the subjects upon which it touches. We note an excellent article on the treatment of tinnitus aurium by the galvanic current; also others on the destruction of neoplasms by electrolysis, on the electrolytic solution of strictures of the urethra, on the electro-cautery in the cavities of the body, especially in the nose, etc.

We feel certain that we do not reckon without our host when we say that this is the only journal extant devoted solely and entirely to the cultivation of electro-therapeutics.

Its distinguished founder, Dr. Léon Danion, edits it with an energy and devotion which is proclaimed by the frequency with which his own name occurs in its pages as a contributor of exhaustive and thorough articles.

The list of collaborators comprises the names of men whose contributions to electro-therapy are widely read.

Those who are interested in electro-therapeutics would find this journal a valuable addition to their libraries.

OUR LIBRARY TABLE.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF ARKANSAS.

This vigorous Society met at Fort Smith April 25, 26, 27, 1888. The address of welcome was delivered by Dr. L. L. Saunders, of Fort Smith. Dr. Saunders speaks of the good done by the Society in its fight against charlatanism and quackery, whether in the æsthetic garb of Hahnemann's dogma, or Thomasonianism, under its new but false cognomen of electicism. "The whole boundless universe is one," and we are not contracted by any therapeutical dogma. In the proceedings of the third day we notice an amendment proposed to the present medical law of the State of Arkansas. A Medical Board for each Congressional district composed of five members, three of which shall be chosen by the Governor from six physicians nominated by the State Medical Society, two to be chosen by the Governor, without suggestions from any medical body, these nominations to be confirmed by the Senate, to hold office for a term of four years. The duty of these Boards shall be to examine all applicants for licenses in their respective districts, on every branch excepting therapeutics.

The address of Dr. W. P. Hart, of Washington, the President of the Society, upon "The Regular Physician," is spirited as well as instructive. The Doctor follows the history of medicine from the early ages, referring briefly to the Hypocratic theory, the medicine of divine origin as dispensed by the priest, Harvey's researches and discoveries, down to the present day. "Regular medicine which is the sum total and accumulation of all that has been accomplished in practical, theoretical and clinical studies and investigations in all ages of the past, and illuminated by the lights of natural science, abhors and revolts at the thought of being prescribed and fettered within the narrow and contracted bounds of any dogma or ism." To him every department of knowledge and science are the great storehouses from which he draws his inspiration. Medicine is an art founded upon science backed by experience. He then pens a short picture of the life of a doctor, his joys and sorrows, disappointments and successes, his relation to the laity and his professional brethren. Then the necessity of the code of ethics is strongly shown. The doctor closes with a very pretty tribute to the fairer sex. The whole shows a careful and earnest study of his subject, his language being clear and concise.

Dr. T. E. Murrell's paper on "Rhinal and Pharyngeal Diseases," is particular, clear, and to the point. His usage of the terms rhinitis and pharyngitis instead of catarrh is much more correct. The histories, etiology and treatment of the different forms are given in a few words, and are clear enough for even beginners to understand.

Dr. Shibley's paper on the "Use of Antifebrine in the Dyspnœa of Pneumonia and Bronchitis," cites two cases in which the symptoms were greatly lessened, and although one case proved fatal, he thinks the collapse was delayed several weeks. If he would use spts. ammonia aromatic in addition to alcohol, he would find no difficulty in dissolving his antifebrine.

Dr. B. Hatch's paper, "Observations on the Effects of Antifebrine," gives the effect of the drug in high temperature and headaches.

Dr. J. C. Minor read a short paper on the "Use of Ergot in Congestion," and he advises its use especially in pneumonia, both as an abortive and curative measure.

Dr. S. P. Green advises in a paper on "Abortive Treatment of Pneumonia," large doses of quinine, combined with morphia.

"Report on Surgery," Geo. F. Hynes, M.D., Chairman.

The committee have given most of their attention to abdominal surgery and laparotomy.

"What Asepsis Has Done." By Dr. Edwin Bentley.

The writer follows the history of asepsis from Lister down to the present day, giving the different theories as to the causes of septic trouble. Then a test and the local affect of the different antiseptic agents. He points out the success in hospitals, etc., where strict asepsis has been followed. A paper on "Biliary Colic" was read by Dr. A. J. Vance, of Harmon. "A Case of Chronic Circumscribed Peritonitis with Effusion, Treated with Incision and Drainage." Recovery. By Dr. R. C. Dorr, of Charlotte.

"Removal of Soft Fibrous Tumor from the Abdominal Parieties, With Remarks on the Manner of Procedure." Recovery. By Dr. Geo. F. Hynes, Fort Smith.

Report of the Committee on Gynæcology, Thos. W. Hurley, M.D., of Bentonville, Chairman. After giving a short history of American Gynæcology, the writer treats more particular of displacements, giving the different methods of treatment and their comparative value.

"One of the Maternal Dystociæ." By Dr. R. G. Jennings, Little Rock. This is an interesting history of a case of placenta prævia with implantation directly over the mouth of the os uteri.

"Taliaferro's Operation." By Dr. D. C. Gray, Fayetteville. In this, Dr. Gray gives the history of a case of prolapsus treated by the hot water and gentle and elastic pressure. There seemed to have been some localized peritonitis, or as the doctor calls it, pelvic cellulitis, and the uterus pretty firmly fixed by adhesions. The use of the glycerine tampon will relieve and soften up adhesions more rapidly than any other method.

The officers for the year 1888–1889 are:

President—Edwin Bentley, M.D., Little Rock.
First Vice-President—A. J. Vance, M.D., Harrison.
Second Vice-President—C. S. Gray, M.D., Fayetteville.
Third Vice-President—B. Hatchett, M.D., Fort Smith.
Fourth Vice-President—W. H. Hill, M.D., Russellville.
Secretary—L. P. Gibson, M.D., Little Rock.
Assistant Secretary—Z. Orto, M.D., Pine Bluff.
Treasurer—A. L. Breysacher, M. D., Little Rock.
Librarian—R. W. Lindsey, M.D., Little Rock.

The Society is to be congratulated upon its good work done. May it have a long life and continued success.

REPRESSION OF MENSTRUATION AS A CURATIVE AGENT IN GYNÆCOLOGY. By Eugene C. Gehrung, M.D., St. Louis Mo. Reprint from the American Journal of Obstetrics and Diseases of Women and Children, Vol. XXI., November 1888.

The author gives a definition of menstruation as follows: "Menstruation is a periodical, usually sanguinous flow of variable quantity and duration, to which most women are subject for a shorter or longer period of their lives." The ground is taken that the more civilized the subject the greater the pelvic congestion, and the greater the loss of blood. The writer claims that women of certain barbarous races of South Africa, whose habits closely approach those of the brute creation, menstruate only at irregular periods and then in a very scanty manner, normal menstruation does not take place until after indiscriminate intercourse has been practised. That the women of Greenland, especially during the winter season have a complete suppression without the slightest disturbances of health. The flow of blood as before mentioned is to relieve the pelvic tensions or congestion, therefore it is the incomplete balance between the engorgement and the resistance to it, whereby the amount of flow is regulated.

It is claimed by him that nature requires very little wasting of blood, and none in the weak anæmic, in this process. He advises in the latter cases, where the flow is at all excessive to stop it by tampon.

I must confess that in this manner of treatment my experience is at fault, as I have never tried it, consequently I do not wish to condemn it. But it would seem that in using the tampon we trespass the first law of true surgery in stopping or preventing drainage. Nor do I see how the tampon stops the hæmorrhage unless sufficient pressure could be brought to bear against the uterus pushing it well up in the pelvis, thus making traction upon the ligaments, for it would seem as if the tampon would draw the blood into the uterine cavity. We all know by experience how young women, or the majority suffer when their menstrual period has been delayed for some years, and how great is the relief, when it is established. Tonics and building up the general health seems a much more reasonable method of accomplishing the good. Time and experience will determine the efficiency of this (Dr. Gehrung's) method, and we shall await with much interest its development.

PLACENTA DEVELOPMENT. By Henry O. Marcy, A.M., M.D., LL. D., of Boston, Mass. (Reprint from the "Transactions of the Ninth International Medical Congress, Vol. II.")

Dr. Marcy begins by referring to Italy's great loss in the death of Count Ercolani, of Bologna, that brilliant student of "Comparative Anatomy." After ten years of constant study of the changes incident to the uterus in the reproductive state in women, and as far as opportunities have allowed him, comparative studies in animals—he is convinced of the correctness of Ercolani's teaching. He then refers to the discoveries of Malpighi, of the fifteenth century, of the uterine glands, and their increase, at least in the cow, during pregnancy.

He gives the conclusions of Ercolani as follows: "In all the vertebrates the nutritive material, which serves for the growth of the fœtus, is provided by the mother. In mammals it is supplied by the maternal portion of the placenta gradually, as the fœtus develops. The absorbent or fœtal part does not change, and it is by means of an absorbent villus, more or less complicated, that the material elaborated by the mother is conveyed to the fœtus. The paper is one of great interest in the study of obstetrics, and of the life in-utero, and we repeat, that, want of time, and lack of space prevents our making a more elaborate notice of the paper, which shows careful study. Any one will be fully repaid for the time spent in reading this interesting. paper.

MONTHLY BULLETIN OF THE NEW STATE BOARD OF HEALTH FOR DECEMBER, 1888.

The number of deaths for the whole State of New York during the month of November, 1888, was 6,987, for December, 1888, 8,369, showing an increase of mortality of 1,382. For December, 1887, 7,886, showing an increase of 483 over December of 1887. Of the 8,369 deaths during December, 1888, 5,273 were in the City of New York, 3,263 in the City of Brooklyn. This shows a mortality of 25.17 per thousand for New York, and a rate of 22.93 per thousand for Brooklyn. From a population of 3,862,000, including all the cities and larger villages, there were 7,050 deaths, giving a death rate of 21.90 per thousand annually. The infant death rate is higher in December 1888 than December 1887, owing no doubt to the increase of the zymotic disease. The death rate from zymotic diseases was 19,000, .58 per cent greater than in November of the same year. There is an increase of scarlet fever and diphtheria. Consumption caused 11.67 per cent of all deaths, and 17.31 per cent. of deaths above five years of age. From acute respiratory diseases 16.63 per cent. of all deaths occurred. Deaths under five years of age for the whole State 2,495, of these 1,292 were in the City of New York, and 593 in Brooklyn.

SUMMARY OF MORTALITY OF THE STATE OF NEW YORK FOR THE YEAR 1888, as published in the *Monthly Bulletin*. Total for the year, 104,450. In the first six months, 52,458; in the last six months, 51,992.

There are more deaths from pulmonary trouble than any other cause, the number from acute respiratory diseases being 13,756, next from consumption, 12,383. These together double those from any other two causes. The worse month for the first being January, for the last, March. Next comes nervous diseases, this number reach 11,074. Diarrhœa reaches the high figure of 8,774. June and July averaging 2,711, August, 1,440.

Besides the 104,450 deaths published in the *Monthly Bulletin*, there have been about 6,000, the returns for which came too late for insertion, making in all about 110,000. Of these 79,800 came from twenty-eight cities, having a population of 3,285,000, the death rate per 1,000 being 24.28. The death rate of the State is about 19.10 per 1,000. Scarlet fever has been more prevalent than in 1887 or 1886, causing 237 per cent. of the deaths. Diphtheria has a lower rate than usual.

Consumption, 2.92 deaths per 1,000 population in the cities, and 2.15 per 1,000 in the State; the proportion to other deaths is lower than usual.

THE CLIMATE OF THE SOUTHERN APPALACHIANS. By Henry O. Marcy, A. M., M.D., LL.D., Boston, U. S. A. Report from the "Transactions of the Ninth International Medical Congress, Vol. V."

Dr. Marcy has very poetically described the climate of the mountainous region of North Carolina, South Carolina, and Georgia, and we cannot better describe its beauties than in the concluding words of his paper. "Everywhere mountains and streams, cliffs and valleys, gaps and glens, add charm to the scene and inspire delight in the lover of the beautiful and sublime, and while health is borne upon the breeze, beauty and grandeur fill the soul. The temperate chart shows in January 1, 1886, 68°, January 10th, 10° below zero, the average temperature for that month 50°. In the month of February only below zero one day, the 1st of that month ranging from about 20° to 65°. In March from 20° to 75°. In April from 26° to 80°. There is no better climate for invalids upon the Eastern coast than this country, and the statistics show the rate of mortality amongst pulmonary diseases to be very low."

OSTEOTOMY, FOR ANTERIOR CURVES OF THE LEGS. By Forest Willard, M.D., Lecturer on Orthopædic Surgery, University of Pennsylvania. Read before the American Orthopædic Society at Washington, September 1888.

The writer compares the different treatments for the curvatures, viz., manual straightening and the use of apparatus. It is possible to accomplish the object in this way during the second or third years of life while the bones are soft. Forcible fracture. A. By the hands, B. By the Osteoclant. In children under three the first, fracture by hand is preferable. The objection to the second fracture by the Osteoclant, is that pressure must be made upon the sharp edge of the libia which is covered only by thin skin. Osteotomy A. By chisel, 1 simple, 2 compound. B. By saw. The writer then describes the different operations, the indications for their different use, and the methods of preparing them He gives several cases with cuts showing the patients before and after operations. Certainly good results are achieved in these while we reap failure by other methods.

BIANNUAL MESSAGE OF RICARD J. OGLESBY, GOV., ILLINOIS.

In referring to the State Board of Health, the Governor states that $35,000 was saved in the epidemics of small-pox in 1887-1888. Also that the policy pursued by the Board as regards quarantine, guarding against the introduction of infectious and dangerous diseases with the least interference with commerce and travel, had been admirable. The improvement of medical education, and the protection of the sick from charlatans and quacks was also commended.

The Illinois State Board of Health is quoted as authority both in this country and abroad. For 1885-1886 $40,000 was returned to the treasury unused, from the appropriation. Only a small proportion of a similar sum for the past year has been used.

THE HISTORY OF EDUCATION IN NORTH CAROLINA. By Chas. Lee Smith, Fellow in History and Politics, Johns Hopkins University.

This State has made most rapid progress in education in the past few years. Her system of public schools is kept up by taxing every male over twenty-one and under fifty years of age. In 1886 the number of school houses for whites was 3,443, for colored, 1,592; enrollment of whites, 188,036, of colored, 117,562.

Mr. Smith says: "The State has a well appointed system, but is hampered by want of funds." The financial condition of the people will not allow of a higher taxation. When it is remembered that the population bears the burden of taxation not only for their children but also for those of the negro race, it can be seen how heavily they are taxed. Superintendent Fruger therefore makes an earnest appeal for national aid in this earnest effort to secure education for all classes.

BUREAU OF EDUCATION, INDUSTRIAL EDUCATION IN THE SOUTH. By Rev. A. D. Mayo.

This gives a clear and concise report of the progress made in industrial education in the South. The only report upon which we can make any comment is that of Wm. Preston Johnson, President of Tulane University, New Orleans, La. Classical, literary, scientific, mechanical and commercial courses form the system of this Institution; in each of these, five hours a week are given to manual training. The report shows that this is a success and not a mere trial.

BULLETIN OF THE AGRICULTURAL EXPERIMENT. Station, Cornell University, College of Agriculture, November 1888.

CIRCULARS OF INFORMATION BUREAU OF EDUCATION. No. 1, 1888. The College of William and Mary.

The history of this college, which was the first successful undertaking of Virginia to educate her sons cannot fail to interest any who may read it.

NO. 2. THOMAS JEFFERSON AND THE UNIVERSITY OF VIRGINIA By Herbert B. Adams, PH.D., Assistant Professor of History in the Johns Hopkins University.

This is a book of over three hundred pages, and will be read with interest by thousands of the Alumni of the old Institution.

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OBITUARY

On the 18th of February Dr. T. F. Healy died at his residence, No. 329 West 23d St. The death of this excellent physician deserves more than a passing notice. He was the son of the late John J. Healy, and was born in this city on December 15th, 1850. Receiving an excellent literary education at St. Francis Xavier's College, he entered upon the study of medicine at the famous Dublin School, where he was the recipient of a diploma. On his return home he was matriculated at the College of Physicians and Surgeons, graduating M.D. in 1873. He was on the house staff of St. Vincent's Hospital for two years, where he had excellent opportunity for clinical study. Possessed of a fine intellect, and having had abundant opportunities for acquiring a thorough knowledge of his profession, his success as a practitioner was soon assured. He was conscientious to a marked degree and had that quick sympathy which is sure to win patients and bind them with hooks of steel to their physician. Aside from these qualities of heart and intellect his friends will fondly recall his refined simplicity of manner and sweet courtesy so indicative of the true gentleman. As long as memory lasts, the recollection of his many virtues and splendid gifts of mind and person will abide, with those who knew him, like an exquisite perfume. And lastly let it be said of him that he exemplified in his life the beauty and loveliness of the Christian religion.

PHARMACY AND THERAPEUTICS.

NOTES ON THE VALUE OF SOME NEW DRUGS.* (By James F. Goodhart, M. D., F. R. C. P., Physician to and Lecturer on Pathology at Guy's Hospital.)—The drugs that I purpose to say a word or two about to-night are paraldehyde, urethan, antipyrin and pilocarpin; and perhaps, in dealing with antipyrin, I may say a word or two upon my experience with other antipyretic drugs. In these go-ahead days I may be taken to task for calling these new drugs, and I had some doubt how to name my paper; but if I cannot call them new I most certainly cannot call them old, and no equivalent to the "subacute" of medicine came ready to my hand. Let me also say that I do not propose to treat of these drugs from any other than my own standpoint. It is simply my object to say in what I have found them useful, and ask you for such experience as you may have of the same agents in similar or other fields. Thus I shall hardly, if at all, discuss the actions of the remedies, nor is it my object to give even a summary of the diseases in which they have been used or recommended.

Now, first of all, *paraldehyde*. It has been *out*, so to speak, for several years, but I do not think it is at all in common use. I am rather fond of it, and have given it frequently now certainly for three or four years, and that means in a large number of cases. Originally recommended, I believe, as a hypnotic, one that combined the advantages, to the exclusion of the disadvantages, of chloral and bromide of potassium, I tried it first of all in cases of insomnia. I do not consider it at all a reliable drug for that state of things; but it is a drug of unquestionable value in the restlessness and cardiac asthma so often seen in aortic disease, and in the laboring dilated heart of chronic Bright's disease. I well remember the first case in which I gave it some years ago—a man who had long been subject to gout, and who had a granular kidney and a large dilated heart. His distress was extreme, and I had exhaused all the old-fashioned remedies (than which few new are better), and many new, including caffeine, and with a marked condition of Cheyne-Stokes' breathing, he had all the aspect of speedy dissolution. As a last resource I gave him half-drachm doses of paraldehyde, with marked relief to the end of the case, which occurred about a fortnight later. I have also found it occasionally useful in the headache of renal disease. In two cases, where this was especially troublesome in the early morning, it was taken on and off for many months, with great relief. As a general rule, nitro-glycerine is the more reliable remedy for the headache of Bright's disease, but the symptom is often a troublesome one, and paraldehyde may well be kept in memory for occasional cases.

But there is another class of cases in which I think it of even more use. It was recommended some few years ago, I think by Dr. Strachan, for certain cases of mania, and some three years or so ago I had to deal with a very troublesome case of alcoholic delirium. The patient was a very free drinker, had had delirium tremens twice before, and was now in a low, muttering, sleepless condition, which nothing seemed to quiet or control. He had been in a semi-comatose state already for five days. He was quite unheedful of any one about him, talked in an unintelligible mutter, and his muscles were tremulous, flabby and wasted. As his wife was his equal, if not his better half, in drinking capacity, he was sent into Guy's Hospital, and for eighteen days remained in much the same state. During that time his treatment consisted of free aperients, iodide and bromide of potassium, opium, and latterly of subcutaneous injections, first of 1-100 grain, and then of 1-60 grain of hyoscyamine. None of them seemed to do him any good. I then tried half a drachm of paraldehyde three times a day, and within a day or two he was much clearer in his mental condition, and before a week was out he was practically well. He remained somewhat feeble-minded for some little time, but he quite recovered eventually. Since then I have given it in similar cases several times. Whether it acts as a stimulant or a sedative I do not know, but it certainly sometimes quiets the delirium and clears the mental faculties. My friend, Mr. Wornum, lately ordered it in another such case, but it was only given in ten-minim doses. The general condition improved decidedly, but the mental condition still remains cloudy. However, the patient has come out of a semi-comatose state, and is now sitting up, although she still suffers from delusions.

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* Read before the North London District meeting of the Metropolitan Counties Branch at Tottenham.

Another case of what I think may be called a similar ailment was treated in a similar manner. A young fellow, æt. twenty-seven years, had typhoid fever badly; he became excessively emaciated, and not long after the fever left him he went off his head. He was very delirious and troublesome. Free stimulation failed to restore him, and he was, therefore, ordered half-drachm doses of paraldehyde. This was on the 8th of the month. The stuff was so nasty, he said he would take no more, and when I again saw him (on the 11th) it had not been persevered with. He then began it regularly, and within four or five days he was much clearer and less delirious, and at the end of a week he was practically well.

I suppose that the state of malnutrition after a prolonged attack of typhoid fever is not very unlike that produced by alcoholic poisoning, and, if so, might be expected to be benefited by the same remedy. The main objection to paraldehyde is its strong taste. I have usually given it with almond mixture ; but it is, after all, not so very nauseous combined with some tincture of orange and syrup and water. The patient taking paraldehyde emits a very peculiar and characteristic odor, which is very tenacious, and I have known it to linger about the person two or three days after the drug has been discontinued.

Of *urethan* I have not much to say, but that little is in its favor. I have used it in a large number of cases as a hypnotic, and although it often fails, I think it is one of the best remedies of the kind since the introduction of chloral. I give it in fifteen-grain doses in water, and have often found it useful; and once I remember it was very so in relieving the headache of early typhoid. A newer hypnotic still is sulphonal, but my experience of this as yet only extends to one case.

Of *pilocarpin* I have only two points that I wish to make. I have, of course, used it quite commonly in Bright's disease, and still do as a usual thing, and it seldom fails to induce a copious diaphoresis; but one day it occurred to me to order a third of a grain as a subcutaneous injection in a case of chronic jaundice with intense itching. It occurred to me that a drug which so uniformly was productive of speedy diaphoresis must profoundly modify the functions of the skin for the time being, and might in doing so relieve the itching which has hitherto, in my experience, defied treatment. It did so quite beyond my expectation, and kept the patient comfortable until she died. In the next case it was equally successful. The patient had one-third of a grain injected subcutaneously many times, and always with this result, that the first twenty-four hours he was quite free, the second he was fairly free, and the third day he was getting bad again, and the dose had to be repeated. I next tried it on an old lady who suffers from very frequent attacks of gall-stones. She is equally decided as to the relief she obtains, but her pleasure is to some extent marred by her skin being for the time converted, as she describes it, into the similitude of that of a laundry woman. I have had six cases in all, and in none has it failed; and when we consider that really there is nothing that can be relied upon to relieve this most distressing feature of jaundice, I hope the suggestion may prove of service. The other class of cases in which it seems to me to be occasionally of value is where the lightning pains of locomotor ataxy are severe. I have two or three times found it useful in these cases when many other means had been tried and failed.

Of *antipyrin* I am almost afraid to speak, for just now it is such a fashionable drug that it would well-nigh be easier to say for what diseases it had *not* been recommended than to enumerate those for which it had. But it does seem that it is likely to achieve a permanent name for abnormal nerve discharges of various kinds, and chiefly those that have been, I think happily, designated as the "paroxysmal neuroses." For instance, there can, I think, be no doubt that it is a very valuable means of combating some migrainous headaches. From what others have told me, and from what I have occasionally seen myself, it would appear to be a remedy of value in some cases of dysmenorrhœa—cases which might, I think, not unfairly be designated as pelvic catamenial neuralgia, if the gynæcologists will forgive me for venturing to have an idea outside my own lines. And fever, too, though you may not, perhaps, have looked at it in that light, is surely much of it a paroxysmal neurosis; and as that light is, I think, a leading one, let me follow it for a moment. Pyrexia is the medical Aunt Sally just now. Up goes a temperature of 103°, and down goes a dose of antipyrin or one of its congeners; and no doubt in most cases the shot tells and down goes the temperature, but it speedily goes up again, and, like the old lady I have mentioned, is soon ready for the next shot. And what I have learnt from the study of pyrexia is this, that it is much more special to the individual than it is to the disease. I am shown a chart of a doubtful case, and asked if it is not like typhoid. But what is a typical typhoid chart? There is little else typical than its duration; and the proper duration of typhoid, as everyone knows, is as often honored by the breach as by the observance; and taken, as temperature charts are usually nowadays, every three or four hours, or oftener, there are few charts typical of anything. And I maintain that, given a certain uniformity in length of certain fevers, according to the life history of particular organisms, the rest of the pattern is due to the individual resistance or want of it on the part of the tissues and centres provoked. Well, then, who does not know that fever (the tendency to pyrexia) runs in families? Only yesterday I heard a mother say so. All her children are noted by their doctor as becoming sharply pyrexial in all the minor ailments and disturbances of daily life. We can all endorse the truth of that observation. Fever runs in families, then, which is only another way of saying that it is the individual you must take stock of in treating the malady; and I take it that that is in some sort evidence of the predominant influence of the nervous system in the regulation of the production and the discharge of heat, and I would certainly hold that pyrexia is in many cases a neurosis. It is from this point of view that there seems, I think, the strong probability that drugs will come to be of value in checking fevers by acting upon and restoring the tone of the diseased nervous centres.

I throw this out for discussion. According to my own experience, I doubt whether we have got far yet in this direction. We require to know much more than we as yet know about the particular fault in each case that needs a remedy. By-and-bye, no doubt, we shall be able to tell these and apply now one antipyretic, now another, according to the special need; but it is hardly so as yet. My own experience would lead me to say that there are two kinds of fever: one that does harm to the patient, the other associated with no ill result. In the latter, little good results from the administration of antipyretics; and in the other class my own impression is that little good results either: in both the temperature is depressed for a time by the remedy, but it soon rises again, and the duration of the disease is not appreciably influenced thereby.

Antipyretics have been advocated by some in enthusiastic terms for the sudden and sharp febrile states that are met with in childhood, and I am far from saying that in such they may not be of use. I believe they may be of great use in that special condition known as hyperpyrexia—or rather in the states which threaten it—because in it the rise is very sudden, the attack is of the nature of a sudden storm-blast, and the tissues may be irreparably withered by it. In the same way in children sudden fever may do irreparable damage to their succulent tissues, and a dose of antifebrin or antipyrin may avert this. Nevertheless, it will occur to all of us that the attacks in which they seem to be so beneficial are just those whose nature is to subside as suddenly as they come, and I do not think that the evidence they afford is as yet conclusive in favor of these remedies.

But to go back to antipyrin in its power to depress abnormally high temperatures and to dissipate a migraine or pelvic neuralgia, we have evidence of some powerful influence on the nervous centres, and it is not far thence to the question, might it be useful in other neurotic states? And it has been tried of late in two very troublesome ailments, namely, chorea and whopping-cough. I have no personal experience to relate as regards the latter, but it has been spoken of very favorably by Sonnenberger,* Wendt,† and Genser.‡ Sonnenberger has tried it in about seventy cases, the dose varying from one-seventh of a grain in very young children to fifteen grains in adults three times a day. Wendt followed the former writer's suggestions, and states that the drug served him better than any other; he claims no cures, but it favors an easy course to final recovery, a mitigation of the paroxysms and a reduction in their number, and certainly a freedom from complications. Genser also asserts that antipyrin always diminishes the number of the coughs in the twenty-four hours, and controls the intensity; the duration of the disease seldom extended over twenty-four days—a very good record, as all will allow, if it be borne out by other observers. The mean dose was a grain and a half a day for each year of age: but I should say myself that the drug might be pushed to the extent of 1½ grain per year three or four times in the twenty-four hours if necessary.

As regards chorea, I can speak—to some extent and tentatively—favorably. I have given it in the last five cases that have come under my observation. In four the result may, I think, be considered to have been good. Thus a girl, æt. eight years, was admitted for her fourth attack of chorea. It was general and rather severe, and she had mitral disease (probably contraction), also. She was put upon two-grain doses of antipyrin three times a day, and after five days it was noticed that there was a marked improvement in the choreic condition, the face muscles especially being quieter. The dose of the drug was then increased to four grains three times a day. She continued to improve for ten days, and by that time the movements had lost all their violence when the drug was discontinued for arsenic. The minor movements remained for some time, as is usually the case with any treatment. She left the hospital practically well after seven weeks.

In another case a boy æt. twelve years, who had had rheumatic fever twice and chorea on and off for a long time, was admitted to Guy's Hospital with marked but not violent chorea of face and extremities and aortic regurgitation. He was put upon five-grain doses of the drug three times a day on the twenty-fourth of the month ; on the twenty-ninth the movements were noticed to be less marked, and on the thirty-first they were not noticeable, and he remained well afterwards. He took the drug for twelve days altogether, and it was then discontinued because of an erythematous eruption that appeared. He was in the hospital three weeks.

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* *Deutsch. Med. Wochenschrift*, 1887, 14.

† *Philadelphia Med. News*, June 2d, 1888.

‡ *Allgem. Wiener Med. Zeit.*, 1888, 15.

A third case, a girl, æt. eight years, under the care of Dr. Cooper, of Rotherhithe—a very bad case indeed, associated with much wasting, imbecility, paralysis, and pericarditis—was given also five grains three times a day. She took it for eight days, and was by that time so much improved that it was discontinued for iron and digitalis. The improvement began within forty-eight hours after the commencement of the antipyrin.

A fourth case, now in the Evelina Hospital, a girl, æt. nine and a-half years, came in on November 26th with general, rather violent, chorea. I gave her five-grain doses every six hours, and on the 29th increased it to ten grains every six hours. On December 3rd she was lying in bed hardly choreic. In this case, however, although the chorea was manifestly better, she suffered from antipyrin poisoning. After three or four days a copious measly rash appeared, with high fever and albuminous urine, and then it was necessary to stop the drug.

The other case, under the care of Dr. Steele Perkins, of Streatham, was made worse by the treatment, and it was given up after ten days. I shall not indulge in any exuberant anticipations, but, remembering how very troublesome chorea is, I think there is enough evidence at hand to make us believe that, at any rate, in some cases, antipyrin may prove of service. Legroux and Dupré* have given it in twenty cases in doses of about seven grains five or six times a day, and they conclude that it is one of the most certain and harmless remedies for chorea, the improvement usually commencing in four to six days.

Before closing, perhaps I may be allowed to add a word, not upon a new remedy, but upon an uncommon method of administration of an old one. I refer to the subcutaneous injection of *strychnine.* There is, of course, nothing novel in this. Nevertheless, I am under the impression that strychnine is not often administered in this fashion. Dr. Habershon has advocated its use thus in cases of cardiac failure, and during the past year I have had three troublesome cases of more or less general paralysis that have, for such cases, rapidly improved by its means. One was a case of peripheral neuritis due to alcohol and lead poisoning combined. He was in a very tremulous condition when admitted. Many of his muscles were much wasted. He had a good deal of pain in the course of various nerves, and he was both sleepless and demented. Various drugs were administered, and he was assiduously galvanized, but he became decidedly more powerless. By-the-bye he had a subcutaneous injection of hydriodate of hyoscine, first $\frac{1}{200}$ of a grain and then $\frac{1}{100}$, and this certainly seemed to quiet his nocturnal delirium, and procure him sleep. On November 4th I ordered him $\frac{1}{60}$ grain of strychnine to be injected hypodermically twice daily. On the 14th it was increased to $\frac{1}{50}$, and by the 31st he was taking $\frac{1}{34}$ twice daily. By this time it was noted that the movements of the patient's hands and arms were much more lively, and there was a gain in the grasping power of both hands. From this time he made continuous improvement. The injection was continued for another month, and was then omitted, chiefly because it caused, or he thought it did, severe pain in his ulnar nerves, which, he insisted, came on soon after the injection, and caused him great misery for several hours afterwards. He had had this pain before the commencement of the injections, and my clerk, Mr. McIlwaine, had doubts about the reality of the cause, but the man was very positive, and I think he was very probably correct. His ulnar nerves were clearly those most affected by his disease, and it is fair, therefore, to suppose that the remedy acted upon them in excess.

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* *Revue Mens. des Mal. de l'Enf.*, March, 1888.

A second case was one of general paralysis, dysphagia, diaphragmatic palsy, and reaction of degeneration in the muscles in a young man æt. 27 years. All the history that he could give was that, being a carman, and of late carrying sacks of coal, he had a month before his admission, felt generally out of sorts and easily fatigued. A week later his finger tips became numb, and then his toes, and gradually he lost all power in his legs, and then in his arms. He was at first given iodide and perchloride of mercury, and he steadily got worse. Then he had three minim doses of liq. strychniæ given internally; but, as he was steadily going down hill, and was swallowing and breathing so badly that I quite feared for his life, I changed the internal administration of strychnine to the hypodermic method after a week. He had $\frac{1}{50}$ grain injected night and morning. This was commenced on the fifth, and on the ninth the report stated that there was a marked improvement in the strength of the right arm, and there was considerable improvement in sensation. By the thirteenth he was beginning to have slight control over his legs. His pains, before rather troublesome, were not so severe, and the patient seemed altogether better; and he rapidly improved from that time, so that at the end of a month he was able to get up and about feebly. He is now, many months later, quite well. It might be added that the real nature of the case still remains obscure to me. The completeness of the paralysis, coupled with his occupation, and a doubtful thickening and prominence over the second cervical vertebra, made me think at first of some cervical pachymeningitis, but I subsequently inclined more to the diagnosis of peripheral neuritis, albeit the cause of it could not even be suggested.

I must only inflict one other case upon you. It is that of a man æt. 41 years, who was admitted for loss of power in his right leg, and incontinence of urine. He came in with these symptoms, and there was, on careful testing, some loss of sensation in the opposite leg. His bladder was running over. This and the paralysis made one suppose that there was disease in the cord, rather than outside it, and I feared he had some tranverse myelitis, worse on the right side. He had not been in the hospital long when he lost the use of the other leg. He had at first some iodide of potassium and perchloride of mercury. But not finding any marked improvement after a fortnight, I changed it to two-minim doses of the liquor strychniæ of the *British Pharmacopœia*, twice a day, and at the end of five weeks he was up and walking about the ward. He is getting about fairly well now, with some clonus and exaggerated reflexes on both sides; but his chief trouble is frequent micturition, possibly due to some slight vesical irritation still remaining.

THYMOL IN THE TREATMENT OF TUBERCULOSIS.—Dr. W. Philipowicz has administered thymol to 38 patients, 17 of whom were treated exclusively with this remedy, whereas the remaining 21 were given the preparation after diarrhœa had set in. The results of the first group were: 10 improvements and 4 deaths, while 3 remained under treatment. The results of the second group are not given, as the treatment was not a uniform one. Thymol was administered in daily doses of 45 grains, being given in gelatine capsules, in which medium the burning taste of the drug was less noticable. Under the administration of thymol a diarrhœa will generally disappear in from two to four days, except when there exists amyloid degeneration of the intestinal walls. The drug can be taken for some time without producing any harmful effects: in fact, it seemed to the author that under its administration both the appetite and digestion were improved. In hæmoptysis it diminished the cough and the expectoration, it lowered the temperature, produced a gain in the body weight; in short a general improvement of the bodily condition, except in cases in which the disease was too far advanced.—*Wiener med. Presse*, Jan. 6, 1889.

PYRODINE.—In a recent number of the *British Medical Journal* we are warned against the free use of the new drug which has been introduced under the name of "pyrodine." It has undoubted temperature-reducing properties of a high order, but unfavorable toxic action interferes with its practical application. Pyrodine contains as its active agent acetylphenylhydrazin ($C_6 H_5 N_2 H, C_2 H_3 O$), a crystalline powder, slightly soluble in water. According to Dr. Dreschfeld, of Manchester, pyrodine acts in the same manner as, but more powerfully than, antipyrine, acetanilide and phenacetine. It has also been used with good effect in migraine and other forms of neuralgia, as well as in the lancinating pain of locomotor ataxia (Lépine). Great caution is required in its administration, because it is apt to produce jaundice, followed by anæmia and even grave symptoms due to hæmoglobinæmia. In exceptional cases, and where other antipyretics have failed, we may resort to pyrodine, but with the utmost reserve. Small doses only should be given, and at sufficiently long intervals to enable one to stop on observing the first indications of any toxic effects.

Terpine in the Bronchitis of Children (Descroizilles).—This substance is employed in the form of an elixir wine, pastils and paste, in doses of 0.10 to 0.60 centigram. per day, in children from six to ten years of age. It takes the place, advantageously, of turpentine.

Terpine is less disagreeable to the taste than turpentine. In children of about eight years of age, the author has given it in doses of 0.50-0.60 gr. per day without there being repugnance or gastrointestinal disturbance.—*Journal de Medicine.*

Result of Inhalations of the Chloride of Ethylene, in the Pure State, upon the Eye (Panas, before the Académie des Sciences).—Raphael Dubois, in his first communication to the Société de Biologie and in two subsequent communications to the Institute, insists upon the corneal trouble caused by the inhalations of the chloride of ethylene when used by him as an anæsthetic. He adds that the eye so affected becomes hard and, so to speak *glaucomatous.* The author experimented upon the same subject and drew the following conclusions:

1. That the corneal trouble caused by the inhalations of the chloride of ethylene arises from a serous infiltration of the parenchyma of that membrane.

2. That the mechanism of the œdema of the corneal tissue depends upon the destruction, by this agent, of the endothelium of the cornea, which of itself protects the cornea from the invasion of the aqeous humor, as Th. Leber has already long ago demonstrated.—*La Tribune Medicale.*

Infantile Typhoid Fever (Legroux and Parat). If the diarrhœa be profuse:

℞.

Naphthol, - - - - -	
Salicylate of bismuth, - - - - -	āā 40 gr.

Divide into ten papers, one of which should be administered about every hour, either in unleavened bread, a little milk, or a spoonful of Todd's potion.

Given thus, the medicine is easily borne and taken without repugnance.

If the diarrhœa be moderate, use the naphthol alone, in the following manner:

℞.

Naphthol, - - - - - - -	40 gr.

Divide into ten powders, one every hour.

Finally, if there be a tendency to constipation, add to the naphthol a little salicylate of magnesia..

℞.

Naphthol, - - - - - - - -	40 gr.
Salicylate of magnesia, - - - -	40-90 gr.

Mix and divide into ten powders, and administer as before.—*La Gazette Medicale.*

TREATMENT OF THE DIARRHŒA OF TUBERCULOSIS BY LACTIC ACID (Sesary).—Lactic acid has given constant success in this trouble when administered in doses of two to eight grammes in the twenty-four hours. The following is a good formula:

℞.

Lactic Acid, - - - - - -	4	grammes.
Chlorodyne, - - - - - -	1	"
Mucilaginous drink, - - - -	120	"

Sig.—To be taken by the tablespoonful in the twenty-four hours. —*Journal de Medécine.*

FORMULA FOR CHRONIC CYSTITIS.—At the meeting at the Sacramento Society for Medical Improvement, October 16, 1888 (*Sacramento Med. Times*, December, 1888), Dr. Mary J. Magill read a paper on the treatment of cystic disease in women, in the course of which she said that the following formula had proved very serviceable:

℞.

Ol. Cubebæ, - - - - - - -	
Ol. santali, - - - - - - -	
Ol. copaibæ, - - - - - -	āā f ʒiii
Liq. potassæ, - - - - - -	f ʒiss
Syr. acaciæ, - - - - - - -	
Aquæ anisi, - - - - - - -	āā f ʒiiiss

M. Sig. Two teaspoonfuls every 4 hours.

ANTIGASTRALGIC DROPS (Monin).

℞.

Tinct. of valerian, - - - - -	
Paregoric elixir, - - - - - -	
Hydrolat of cherry-laurel, - - - -	āā ʒijss
Tinct. of conium - - - - -	gtt. lxxv

La Gazette Medicale.

MISCELLANEOUS.

THE RELATION OF ILL-HEALTH TO GENIUS.—The present age has a passion for biography, and delights to know every detail of the lives of the great men and women who have adorned it and have been gathered to their rest. Among the indirect results of this fashion in literature is the light which it sheds upon the health enjoyed or the ill-health endured by the possessors of distinguished genius. On the whole, the picture is not a bright one. The great thinkers and writers would appear to have had more than a moderate share of human ills, and often to have achieved their best work in spite of acute physical suffering or profound mental depression. The life of Carlyle is one long fierce fight with the demon of dyspepsia. Darwin was forced, time after time, to suspend those indomitable labors which have changed the face of science and rendered this epoch for ever memorable, in order to recoup his shattered physical energies by rest and change. The life of George Eliot is full of the tale of headache and languor, the struggles of a great spirit with the infirmities of a frail body. John Stuart Mill is another instance of the union of splendid intellectual power with feeble physique, and among living writers it would be easy to mention many more. Is such a conjunction merely accidental, or due to inheritance, or to some imprudent and abnormal mode of life? These questions are sufficiently interesting to detain us for a while.

It might be argued that the prominence of ill-health in the records of genius is simply the result of the fierce light which biography brings to bear upon every detail, and that the physical suffering of eminent men does not exceed that of the average in amount, but only in the publicity which is accorded to it. It might further be urged that men of genius have, as a rule, both heightened sensibility and remarkable powers of description, and that hence the picture of their physical ills becomes unconsciously exaggerated. There is some force in both arguments. Biliousness, when painted by perhaps the greatest master of pictorial description that ever lived (for such was Carlyle), is no doubt a very different malady from what it is when described by unimaginative Jones or Robinson. But, allowing some weight to these objections, it would yet appear that genius is often associated with physical weakness, and the explanation must lie with one or other of the two latter theories that have been mentioned. Either the type which confers the inestimable boon of intellectual power is commonly associated with feebleness of physical development, or the mode of life adopted by great writers and thinkers is at fault. The former theory, though accordant with many facts, must not be accepted too hastily; and, if in a measure true, is at least happily subject to very numerous exceptions. The records of our universities show that the senior wrangler and the double first are often able to give a good account of themselves in the cricket field or upon the river. Probably in many cases the physical weakness of the intellectually gifted has been the result less of actual congenital defect than of the habits of precocious study and premature development which are apt to be engendered by notable mental superiority. The clever child may become a nervous or dyspeptic man or woman, not necessarily or of course, but because the unwisdom of parents or teachers forces into premature maturity the powers which might be developed without physical injury by timely check and prudent delay. The first duty of a child is to grow, and if this duty be ignored or in any way infringed Nature is absolutely relentless in inflicting her penalty.

Our third theory has doubtless a wide application, as there seems much reason to fear that the habits of the most distinguished brain-workers are frequently inimical to health. The most frequent fault is probably excessive application to work. The writer or scientific worker, if he devotes himself wholly to his pursuits, is to a large extent free from those interruptions to labor, those jolts and jars which are part of the fate of professional and commercial life, and which, however disagreeable, are probably in the long run a great safeguard to health. A Newton, a Darwin, or a Carlyle in his study works on hour by hour. The most intense and fatiguing of toils is pursued almost uninterruptedly, food is neglected, and the claims of exercise and sleep are but imperfectly admitted. It would be a miracle if under such circumstances health remained unimpaired. There can be no permanent vigor for brain-workers unless three conditions at least are fairly met. Fresh air exercise must be regulary taken, food must be carefully selected, and sleep must not be unduly curtailed. As regards exercise, some professional authors make the wise rule of taking at least two hours in the open air daily. This is probably a minimum, and might be prudently exceeded. The form of exercise must be left to the individual taste, but riding has always been a favorite mode with the class whose needs we are discussing. The question of food for brain-workers opens up a wide and somewhat debatable topic, but some rules are clear. The brain-worker must live sparingly rather than luxuriously, he must prefer the lighter classes of food to the heavier, and he must be very prudent in his use of alcohol. Tobacco and tea are apt to be favorites with him, and their immoderate use may require to be guarded against. The brain-worker will do well often to go supperless to bed. It is a nice question whether he needs more or less sleep than other men. It might seem a *prima-facie* probability that the hard-worked brain would need more than the usual quantum of sleep, but it is undoubted that a large proportion of men of genius have been very light sleepers. This was probably in some cases only their misfortune, but there seems some ground for the notion that more than a moderate indulgence in sleep is unfavorable to successful mental effort.

DONDERS AND MOLESCHOTT ON PRE-PROFESSIONAL EDUCATION.—The great Dutch physiologist and ophthalmic surgeon, in reviewing his educational career, dwelt with gratitude on the classical studies he pursued under clerical auspices at Boxmeer. Certain it is that to that discipline he owed his skill in the use of language and his love for the elevated and refined in thought and expression, which never failed him in after life. Commenting on this avowal of Donders, his biographer Moleschott says that no one who is conscious of his own mental evolution can deny that such early educational influences infuse a love of study for its own sake—a habit of mind which is worth more than all the acquisitions one can make in the secondary schools. We must, he says, do justice to the old Latin (or, as we should say, grammar) school, and acknowledge that it was in no way inferior to the best and most comprehensive of the modern schools in cultivating an eagerness to learn, in awaking a passion for the search after truth, in evoking an admiration of the beautiful. Goethe, in the sixth book of his "Wahrheit und Dichtung," spoke prophetically when he said: "The injury done to our youths by impelling them too exclusively in certain lines of instruction is most manifest when their training in the use of language is minimized and the value of their preparatory discipline impaired, to devote the time and attention thus gained to the inuring them to so-called 'real studies,' which tend more to distract than to cultivate the mind, unless they are carried out with system and with thoroughness." Endorsing this argument, Moleschott adds: "The study of language and literature involves, according to some, a loss of the time which should be bestowed on physical science. But those who think so forget that, in early youth, its instructor must not have in view the exercise of the intellect alone; he must also, and primarily, educate the heart and the taste; he must feed the faculties by which we appreciate and admire the beautiful and the noble; he must kindle enthusiasm for virtue and patriotism; in a word, he must mould the sentiment of duty and the aspiration after the ideal. If, in the prosecution of such discipline, there is the sacrifice of some hours that might be employed on subjects more apparently useful, we have in compensation the development of that large and loving knowledge of man and of the world, the storing up of reflexions which elevate the youth into the noble thinker, who, at a more advanced stage, grasps with ease the facts that are useful, and is preserved from the danger of becoming a mere referee of data or a poor groper after the light." Donders began his professional education, says Moleschott, without being initiated in what Goethe called "real studies," and has never regretted it.

PRISON DISCIPLINE AS A MEANS OF EDUCATION.—A little book of some hundred pages has been published in regard to the educational system pursued at Elmira, N. Y., which sets forth the results of the system and is printed by the prisoners themselves. Only such convicts are sent to the institution as have never been in a State prison before. They are sentenced to an indefinite term subject to the discretion of the board of managers, but cannot be detained beyond the maximum period for which they might have been incarcerated under the law. For burglary, e. g., a man may be kept in Elmira for ten years, but not longer; but if the superintendent believes that a prisoner, from his record, will lead an honest life on discharge, he may be allowed to go free at any time after one year. To obtain his release he must get a perfect record in three branches—for good conduct, zeal and efficiency as a workman, and proficiency and diligence as a scholar. In this latter field is found the distinguishing characteristic of the Elmira system. It is, in fact a school for convicts, and the results are surprising On the average, it is said 60 per cent. of convicts released from other prisons find their way back, but thus far 80 per cent. of the discharges from the Elmira Reformatory during the eight years the experiment has been continued are believed to be permanent reformations. Every improvement has been introduced, not inconsistent with proper discipline, looking to the health and well-being of convicts. The experience of those engaged in this humanitarian work is opposed to the view that intellectual development increases the capacity for wrong-doing. By enforced study the energies formerly employed in criminality seem diverted towards more praiseworthy pursuits. It is found, however, that even the so-called intelligent criminal appears mentally deficient as soon as he passes out of the groove in which he has been accustomed to exercise his cunning, so that it is no easy task to broaden his views of the aims and duties of life, and thus qualify him for occupying a useful place in society. The experiment appears to us to be well worthy of consideration by social reformers, and by all who desire that penal infliction should be made subservient to reformatory results in our criminal population.

CASE OF TUMOR OF THE STOMACH CAUSED BY HUMAN HAIR.—Dr. J. Berg, of Stockholm, records a case in the *Nordiskt Medicinskt Arkiv* of a married woman, æt. twenty-six years, who for three years suffered from anæmic and dyspeptic symptoms, accompanied by glairy vomiting. Two years before coming under observation a tumor began to form in the epigastric region, which had increased very rapidly during the last six months. On examination this tumor was found to be in the epigastric and left hypochondriac regions, between the middle and left nipple lines. It was as large as the hand, and was concave at its upper and convex at its lower border; it was movable, but could not be displaced downwards. The spleen was in its normal position. An exploratory laparotomy having been made, the tumor was found to be in the stomach, which was accordingly opened by an incision eight centimetres long and parallel to the greater curvature. The tumor thus exposed, being too large to remove in its entirety, was cut up and removed in fragments. It weighed 900 grammes, and was composed of hair tightly compressed. The wounds were sutured, union took place by first intention, and the patient left the hospital quite well at the end of three weeks. The patient herself did not remember to have eaten hair, but her mother said that she had that habit when quite a child. Dr. Berg has not been able to find more than two such cases reported, one by Schönborn and the other by Knowsley Thornton.

The Treatment of Pernicious Anæmia, with Recovery.—In some remarks upon this subject (*Lancet*, January 12, 1889), Dr. Broadbent said that until the publication of Dr. Byrom Bramwell's paper on the success obtained by the use of arsenic in pernicious anæmia, it was looked upon as truly progressive, and as always having a fatal termination. Since that time there has been a change, and many cases have been published proving the efficacy of arsenic, recovery having frequently followed its employment. Sometimes there appears to have been a relapse, and sometimes it has failed, but no treatment has yielded such good results. Iron, which in cases of ordinary anæmia is so efficacious, appears to be almost useless; but a case is recorded in which arsenic failed to cure, and the patient recovered on the administration of iron. Other treatment adapted to improve the general health, allay digestive disturbance, produce appetite, etc., has been recommended; and transfusion has been tried in some instances with success (see Coupland), but the use of arsenic is generally indicated. We dwell on this point, as a recent edition of a work on therapeutics does not draw attention to its great properties in such cases. Dr. Broadbent, in a former case which recovered, that of a woman æt. forty-three years, who had been suffering for four months, gave the drug in frequent small doses, on the failure of iron, and obtained a cure in two months; in this case he followed a similar plan, giving liquor arsenicalis in two and a half minim doses every three hours.

Ear Cough.—Dr. P. Jakins (*Practitioner*) writes on certain coughs produced by irritation of the external auditory meatus. The theory is that a branch of the vagus nerve (*ramus auricularis*) to the ear, and another branch (*superior laryngeal*) to the larynx, conveys the impressions of irritation in the ear to the larynx and pharynx. A case is reported where the patient gradually grew worse, and at the same time having increased deafness. The patient wasted, had night sweats, became delirious at times, and could not rest at night. Amongst other opinions was one that he was suffering from consumption, and could not live long. Dr. Jakins found mucous râles over both lungs and *cerumen* in both ears. The *cerumen* was removed, and all the symptoms vanished in fourteen days. After three months' rest he returned to his usual labor.

Antiseptic Treatment of Abscess (Dr. Lucas Championnière).—Before opening an abscess the neighboring parts should be washed with strongly carbolized water:

℞.

Crystallized carbolic acid - -	50 grammes.
Glycerin - - - - -	50–75 "
Water - - - -	1000 "

Use a bistoury that has been dipped in carbolized water; evacuate the abscess and inject into its cavity a strong solution, allowing the liquid free egress. Introduce into the opening one end of a caoutchouc tube, arranged so that it can be readily drawn out by means of a thread, and then cover the whole with a thick layer of charpie impregnated with the following solution :

℞.

Crystallized carbolic acid	25 grammes.
Glycerin	25 "
Water	1000 "

This dressing is next covered with a sheet of oiled silk, nicely arranged. At the end of twenty-four hours withdraw the tube so as to wash and shorten it ; then recover it with a layer of charpie dipped in weakly carbolized water. With this mode of dressing there is less formation of pus, the redness of the wound is insignificant and the cicatrix less apparent. It is particularly applicable to abscesses of the breasts.

TREATMENT OF BALDNESS.—Dr. Lassar (*Therap. Ztsch.*, December, 1888) recommends for *alopecia areata* the following treatment: For the first six or eight weeks an experienced hand should thoroughly soap the scalp for ten minutes daily, using for this a strong tar soap. A good lather having been formed, it should be removed with an irrigator, using first lukewarm and then cold water. The cold douching will, after several repetitions, harden the scalp somewhat and prevent catching cold. After the scalp has been thoroughly dried the following lotion should be applied :

℞.

Solution of bichloride of mercury	8 grs. to 5 oz.
Glycerin Cologne water	āā ℥ij ʒv.

Then the scalp should be rubbed dry with alcohol, ninety per cent., to which one-half per cent. of naphthol has been added. The scalp now being freed from any fat whatsoever, the following is applied :

℞.

Salicylic acid,	30 grains.
Tincture of benzoin	45 "
Neat's foot oil	℥iij ʒij.—M.

This treatment carried out daily for some weeks will be followed with good results. Dandruff and itching will disappear. Hairs which are stiff and dry become flexible and oily, and where no hair was hundreds of small hairs will make their appearance. Of course, this only holds good when the hair-growth is not destroyed.

In very obstinate cases the following is worthy of trial :

℞.

Carbolic acid	15 grains.
Sublimed sulphur	75 "
Fat from a horse's neck	℥iss.—M.

The author relies very much upon pilocarpin, which he prescribes either in the form of an alcoholic solution or pomade:

℞.

Muriate of pilocarpin	30 grains.
Vaseline	ʒv.
Lanolin	℥iiss.
Oil of lavender	25 drops.—M.

That the addition of balsam of Peru to hair pomades takes the place of an anti-parasite is well known, and the following would make an efficient though somewhat expensive pomade:

℞.

Muriate of pilocarpin	30 grains.
Muriate of quinine	60 "
Precipitated sulphur	ʒiiss.
Balsam of Peru	ʒv.
Ox marrow	℥iij.

Before applying the pomade the scalp should be thoroughly washed with soap and water and allowed to dry; then the ointment should be applied, but it should not be left on too long before being again removed with soap and reapplied.

Tar in the form of tar baths is also an excellent remedy as well as an anti-parasite.—*Münchener Med. Wochenschrift*, December 25, 1888.

Oleate of Copper for Ringworm.—At one of the asylums for orphan boys, in this city, Dr. Blanc has recently treated twenty-seven cases of ringworm of the scalp (tinea trichopytina capitis) with oleate of copper made into an ointment with vaseline, in the following proportions:

℞.

Cupri oleate	ʒ ss.
Vaseline (vel lanolini)	℥ i.

M. Sig.—Apply to scalp.

The method pursued is to wash the child's head thoroughly with soft soap and warm water, after having cut the hair as close as possible. When the head is well dried the ointment is rubbed on the scalp, over and beyond the diseased spots, and allowed to remain. The scrubbing of the head is practised but once a day, but the salve is applied night and morning. In a few of the milder cases, a salve of chrysarobin (chrysophanic acid) half a drachm to the ounce, was applied, but always immediately discontinued as soon as irritation was produced. The oleate of copper application, from its soothing and antiseptic properities, was found particularly useful in those cases which had gone on to produce kerion, and was found altogether much more serviceable than chrysarobin, which latter was finally completely discarded.

The disease, which averages in duration some six months, particularly in public institutions, was cured in this instance in a somewhat shorter time, as the following statement will show:

Began treatment of twenty-seven boys with oleate of copper, May 1, 1887.

July 13. Discharged four cases; seventy-four days.

August 24. Discharged four cases; one hundred and sixteen days.

August 28. Discharged six cases; one hundred and twenty days.

September 3. Discharged seven cases; one hundred and twenty-six days.

September 22. Discharged three cases; one hundred and forty-five days.

October 13. Discharged the last three cases; one hundred and sixty-six days.

Average duration of treatment, four months and four days. The last six were cases of kerion, in which there was inflammation of the subcutaneous tissues before the copper was applied; and the cure of one of them was retarded by a temporary removal from the institution. The disease had been communicated by two cats upon the premises, which were pets of the boys, and ceased to spread as soon as the cats were removed and the boys isolated. Epilation was not practiced in any of the cases.—*N. O. Med. and Surg. Jour.*

ABSORPTION OF THE TISSUES OF THE ORAL CAVITY FROM PRESSURE.—The absorption which occasionally takes place from constant pressure upon the tissues of the mouth was well exemplified by two cases brought forward at the Odontological Society this week by Mr. Hern and Mr. E. Lloyd Williams respectively. In the first case the patient had been wearing a set of artificial teeth, the upper and lower of which were attached by means of springs. She had not removed these teeth from her mouth for several years, and, as a result, the lower had become buried in the floor of the mouth. Also, it was so twisted round as nearly to sever the anterior pillar of the fauces. There was found to be complete anæsthesia of the right half of the tongue and corresponding portion of the floor of the mouth, also complete loss of the sense of taste on that side. There was no pressure on the inferior dental nerve, as sensibility was present in the skin over the chin. The plate was removed with considerable difficulty, and caused much hæmorrhage. Some weeks later Mr. Hern observed a whitish cord passing across the gap in the anterior pillar of the fauces; this proved to be the gustatory nerve, and on pinching it with tweezers a tingling sensation was felt in the tip of the tongue. Nine months later sensation had partly returned in the tongue. Mr. Lloyd Williams showed a man who had extracted two loose molars for himself, the sockets of which probably communicated with the antrum. The patient, being annoyed by the cavity, plugged it with gutta-percha, gradually increasing the size until a plug was used measuring more than an inch in diameter. The hole, however, was much larger than this, as the patient was in the habit of encircling the gutta-percha with a piece of lettuce leaf. The walls of the antrum presented in places foul, ulcerated spots, which, however, speedily disappeared when an obturator was placed in the mouth and antiseptic injections were used.

ESTIMATION OF ALBUMEN IN URINE.—A quick and ready method for the determination of the actual quantity of albumen present in albuminous urine has always been desirable. Hitherto the methods in use—except that of Esbach, which is perhaps open to some objections —were either too complicated in their manipulation, or else took up more time than can be generally afforded by the majority of practitioners. H. Zahor has, however, in the *Zeitschrift für Physiologische Chemie* (12, 484-494), devised a simple process which gives results accurate to the first place of decimals, and which can be carried out clinically. It depends upon the difference in the specific gravity or density brought about in the urine by the elimination of the albumen. Such an estimation is termed a densimetric one. The method adopted is as follows: A preliminary examination of the filtered urine is made in order to determine approximately the amount of dilute acetic acid necessary to precipitate all the albumen when boiled. This is easily ascertained by taking a small quantity of urine in a test tube, adding acetic acid, and boiling. The urine is then filtered from the coagulum, when the filtrate should yield no further precipitate with acetic acid and potassium ferrocyanide. A convenient quantity of the filtered urine, after the addition of the proper quantity of acetic acid, is then placed in a flask well fitted with a good cork. The flask, with its contents, is next placed for ten or fifteen minutes in a bath containing water constantly boiling. This brings about the precipitation of the albumen, which is then carefully filtered off into a flask fitted with a cork with a hole in it, through which the funnel is passed. It is advisable to cover the funnel during filtration with a glass plate. The density of the urine and the filtrate is then determined by means of a urinometer graduated to the fourth decimal place. Of course, the temperature must be the same for both liquids. This precaution is easily taken by placing them in two glass cylinders immersed in a bath of water kept at a convenient temperature, *e.g.*, 17·5° centigrade. The difference between the initial density and the final density is then multiplied by the factor 400, the product giving the number of grammes of albumen present in 100 cubic centimetres of the urine. The factor 400 is found to yield by experiment with a number of albuminous urines approximately accurate results, and depends upon the mean value of the specific gravity of albumen, which was found by the author to be 1·3747. It does not, however, appear to yield such good results with fluids containing albumen other than urine.

THE MANAGEMENT OF PROGRESSIVE CEREBRAL HÆMORRHAGE. —A. H. Smith (*Medical Record*) advocates a revision of the generally adopted methods of management of cerebral hæmorrhage, since in the form in which it usually occurs none of nature's various provisions for spontaneously arresting hæmorrhage in other situations can be operative within the cerebrum. Thus in the majority of cases the rupture does not occur in the continuity of the vessel, but in the wall of a minute aneurismal dilatation formed upon it, and destitute of contractile tissue. Cerebral tissue is too soft to offer any considerable resistance to the escape of blood, and the loss of blood is never sufficient to bring about diminished cardiac action. When, as a result of free hæmorrhage, the brain is compressed to its utmost and the whole intracranial space occupied, bleeding ceases. But the gravity of the prognosis is directly proportionate to the amount of blood effused. So that "as we shall in all probability have to rely upon pressure in the end to stop the bleeding vessel, it is vastly better that this pressure be exerted by blood within the vessels than by blood extravasated into or upon the brain. The more room for blood in the vessels, the less room there will be for blood outside of them." Smith, therefore, advises lowering the head, and perhaps even the administration of amyl nitrate to diminish the *vis a tergo* in the injured vessel. Raising the head, purging or bleeding, to diminish the amount of blood in the cerebral vessels or general systemic vascular system, he believes tend to increase the risk of further hæmorrhage rather than to lighten it. Cold to the head is useful in cerebral hæmorrhage, not to contract the cerebral vessels, but to hasten the firm coagulation of the effused blood.

OPERATION FOR TORTICOLLIS.—Dr. Leverat has devised a new method of treating torticollis. Instead of operating subcutaneously, he cuts down upon the sternal tendon of the sterno-mastoid muscle, effected by a longitudinal incision two centimetres long. He clears the tendon with the forceps, passes a grooved director under it, and divides it. He then divides any tissue that may bind down the muscles at that spot, sutures the wound, and dresses it antiseptically with iodoform and gauze. Over the dressings he places the following: The head being enveloped in cotton wool, a silicated bandage is wound horizontally around it at the level of the forehead, and a similar bandage vertically over the crown and under the jaw. Where these bandages meet at the level of the mastoid process on the sound side, a small hook, with the concavity looking upward, is inserted. Another silicated bandage is wound round the body below the axillæ, and through the thickness of the bandage a hook is inserted in the middle line in front, having its concavity looking downward. When the bandages have dried the two hooks are connected by a band of India rubber, which assists the sterno-mastoid of the sound side to keep up a continuous traction, and so correct the deformity. This apparatus and the dressings are left untouched for fifteen days, and the success of the operation is said to be assured.—*Lancet.*

TOBACCO VERTIGO.—Having investigated sixty-three cases of excessive use of tobacco (says the *Lancet*), Decaisne finds forty-nine to be over fifty years of age. More than half the cases presented, besides digestive derangements, alternating constipation and diarrhœa, an exaggeration of the urinary secretion, and more or less abundant sweats, insomnia and palpitation. In thirty-seven cases the smokers pursued the habit fasting, and in these vertigo was present, especially in the morning. The appearance of the vertigo coincides in one-third of the cases with the suppression of the profuse sweats and marked diminution of the urinary secretion. Sometimes the vertiginous symptoms have been confounded with those due to cerebral congestion, and even to heart disease. Besides the absolute suppression of the use of tobacco, laxatives, warm baths, magnesia and bitters are prescribed. Injections of ether subcutaneously also appeared to stop the vertigo in a few minutes.

THE following story translated from an old French manuscript of the thirteenth century is applicable to the present day. The credulity of many persons, even those of some intelligence, still leads them to apply to quackery either in the form of sending handwriting, photographs, locks of hair, or something to a distance for their fortunes, traits of character or health.

There was once upon a time a country curate who was continually pitching into his parishioners because they consulted an old witch, who treated them after only seeing the clothes or belt of the ill one.

In spite of his exhortations he could not make them renounce this deplorable custom. What was he to do, how to manage it?

He pretended he was ill and told them to carry his belt to the old sorceress and to ask her what was the one to whom it belonged suffering from. He told them above all things not to reveal either his name or position.

The good woman took the belt, examined with attention its length its breadth, the holes by which the clothes were attached to it and then put herself to reflections.

It may be well to remark that the curate was large and fat.

At the end of an instant the wizard pronounced her judgment with a profound air:

"This belt," said she, "is that of a pregnant woman and her disease is nothing else than that of child carrying!"

The messenger of the curate returned abashed and he had no more trouble in demonstrating the absurdity of their superstition.—*Correspondent of the Maryland Medical Journal.*

COMMUNICATION OF TUBERCULOSIS.—An instructive case of communicated tuberculosis is related by Dr. E. von Duhring, who states that a girl æt. 14 years, sprung from a family uncontaminated with phthisis, was in friendly relations with a young friend who died of consumption. At the time when this girl died the patient, E. Z., was in good health. Shortly after the death of the friend she removed the earrings which the other wore from the ears and fastened them in her own. The mother stated that the girl who had died had no wound in her ear, but E. Z. herself on the contrary, states that her friend had frequently blood and matter on her ear. The patient E. Z. herself had up to that time never worn earrings, although the ears had been bored for the purpose. Shortly after she began to wear earrings the hole through which they were fastened began to secrete freely, notwithstanding which she continued to wear them, and she had continued to wear them up to the time when Dr. Duhring saw her. It was on account of the condition of her ears that she was brought to him. He found her pale, somewhat thin, but well built and well developed for her age. Where the left ear had been pierced there was a shallow ulcer with undermined borders, and on the left side of the neck there was a slightly enlarged gland adherent to the skin, which was ulcerated on the surface and covered with a dirty scab. On removing the scab a somewhat abundant thin secretion escaped. The borders of this ulcer were irregularily dentated. On examining the lungs, there was dulness detected in the left apex. Granulations removed with a sharp spoon from the wound in the ear showed the presence of tubercle bacilli. The further progress of the case was rapid, and at the time Dr. Duhring wrote his paper the patient was rapidly sinking from phthisis.

SUCCESSFUL GASTROSTOMY.—At the meeting of the Southern Surgical and Gynæcological Association, held at Birmingham, Ala., Dec. 4, 5 and 6, Dr. W. B. Rogers, of Memphis, Tenn., reported a successful case of gastrostomy, which he had performed for relief of a patient with cicatricial stricture of the œsophagus. The patient, a white man, æt. 24 years, swallowed a solution of concentrated lye one year before the operation. The contraction was situated seven and a half inches from the incisor teeth. The opening was so small that repeated examinations failed to pass it with the smallest urethral bougies. The patient's flesh and strength were rapidly failing from starvation.

Operation, June 29, 1888. Fenger's incision was made; the stomach was held in the abdominal wound by means of hare-lip pins, and stitched to the abdomen with silk. Every aseptic precaution was taken, and the patient recovered without any serious symptoms. On the tenth day, the gastric opening was made, and fifteen weeks later the patient was in excellent health, with flesh and strength fully restored; ability to swallow solid food had gradually returned, and though the opening was not being used, it gave no trouble, the edges having fully cicatrized.

DISINFECTION OF THE AIR-PASSAGES WITH MYRTHOL.—The Vienna correspondent of the *New Orleans Med. and Surg. Journal*, December, 1888, says that hitherto inhalations of turpentine in the respiration mask of Curschmann have been used for disinfecting the air-passages, or for combating putrid processes. Aside from the frequent disagreeable after-effects which were produced by this medication, the results also were very little favorable. In spite of the inhalations a patient affected with putrid bronchitis used to infect a whole ward in the hospital. Dr. Eichherst has recommended a medicament which, taken by the mouth, met all these inconveniences, and moreover favorably influenced the appetite and the general condition of the patient. This drug, myrthol, has a rapid and sure effect. It is that part of the myrtle-oil which boils at from 160° to 170° C. (320° 338° F.), and which represents a clear fluid of an aromatic odor. It had formerly been recommended as a deodorant in bronchial catarrh. According to the present recommendation it is the best medicament for rapidly and surely combating the putrescence, and for removing the bad odor of the breath and the secretions.

When a gelatine capsule containing two and one-half minims of myrthol is taken the breath distinctly smells of myrthol for an hour, and this odor can also be perceived for twenty-four and even forty-eight hours after the administration. In putrid processes much larger doses are required; in most cases two capsules are administered at intervals of two hours. There is no disgust against the drug on the part of the patients.

Though myrthol proves very effectual in combating the putrid process and the bad odor connected therewith it is quite ineffectual for preventing an infection with tubercle bacilli, as tuberculosis developed even when myrthol was in use.

FATAL ACCIDENT FOLLOWING A HYPODERMATIC INJECTION OF COCAINE (Abadie).—The author reported at a recent meeting of the Opthalmological Society of Paris, the case of a woman, æt. 71 years upon whose eye he was operating, and whose death occurred so soon after the use of the cocaine as to lead to the belief that the cocaine was somehow the cause. Instead of a 2 per cent. solution, which he was accustomed to using, he happened to employ a 5 per cent. solution but had only injected about three-fourths of the syringeful, when he noticed that he was using the stronger; thus about four centigrammes of the cocaine were injected into the cellular tissue under the skin of the lower eyelid. This was about 3 P.M. During the operation there were no disturbances of any note, but upon rising from the chair the patient exhibited marked titubation. When she was assisted into a neighboring room syncope came on. Soon the respiration seemed to stop, the face became cyanosed, the lips blue, as though the patient were asphyxiated, but the air-passages were freely open. With manipulations and injections of ether the respiration was partially reestablished; but the face remained congested, and unconsciousness continued. At the end of a half-hour some words were uttered, and the patient was placed in bed. Caffeine was administered, but in spite of all efforts death occurred about 8 o'clock in the evening. No autopsy.

THE USE OF THE FORCEPS, THEIR INFLUENCE FOR GOOD AS WELL AS FOR INJURY TO THE PATURIENT WOMAN.—Dr. Paul F. Mundé, of New York City, in response to special request, sends us his opinion regarding "The use of the forceps, their influence for good as well as for injury to the paturient woman." He says:

"I have always considered the obstetric forceps one of the most useful and beneficial instruments in our armamentarium, one which, in skillful hands, and with proper care and judgment, can *never* do harm either to mother or child, but will often be the only means of saving the life of one or the other, or of both, or of sparing the mother the consequences of delayed delivery and excessive pressure of the soft parts.

"Injury to the mother by the forceps is usually due to their too early application, before the cervix is well dilated, or to the use of excessive or misdirected force in making traction. A *cervix may*, but need not, be torn by the forceps. A *perineum* should *never* be injured by the forceps; indeed, the gentle and dexterous guiding of the head over the perineum, so as to permit its gradual distention, is one of the means of preventing that injury. Too much haste in delivering the head with the forceps, is the usual cause of a laceration of the perineum in instrumental deliveries.

"*Abuse of the forceps*, in my opinion, consists in applying them merely to terminate the labor for the sake of the medical attendant; or, when the soft parts are yet unprepared, or the head is too high, or the pelvis is too narrow.

"The *correct indications* for the use of the forceps, are perfectly clear to a well-educated and evenly balanced, conscientious accoucheur. His own convenience certainly should not be an indication for their use. But, if he knows his skill to be equal to the case, and feels that he can safely deliver the woman with forceps, he should not hesitate, if the conditions, being favorable to their use and the labor making no progress, to use them after waiting a reasonable time (say two or three hours, without any progress whatever), and thus save the mother unnecessary suffering.

"In short, I think that more harm has been done by too long delay in applying the forceps, and by their unskillful, rude use, than by their too frequent application by skillful hands.

"As for the Tarnier forceps, I confess never to have used them, although I think the principle a correct one, and one which is calculated to save some pioneer in high forceps cases, and certainly to save the obstetrician's strength. Their employment is naturally restricted, more or less, to a high position of the head, chiefly in primiparæ. I have found a Simpson's forceps, with Elliot's screw in the handle to prevent too great compression of the head, perfectly sufficient in my practice, which, obstetrically, is now entirely a consulting one.

"In conclusion, I would say that a slight indentation, or abrasion of the child's head by the forceps blades cannot always be avoided. particularly in high cases, and such an occurrence should not be cosidered necessarily as an abuse or unskillful use of the instrument.

"Of course, this subject can be continued indefinitely. I hope I have answered your question with sufficient clearness to suit your purpose."—*Exchange.*

New Ideas About the Surplus Population.—A learned and thoughtful traveler, Mr. H. H. Johnson, of England, solves the vexed question as to what we shall do with the useless classes by saying "eat them." He has been studying the ethics of cannibalism in many barbarous countries, and gives in the last *Fortnightly Review* his conclusions, in a style which is replete with information, philosophy, and humor. Speaking of the cannibalism to be found in Africa, many parts of Asia, in Polynesia and Australia, he says:

I blame these cannibals less for the eating of the flesh of their own species, which from their point of view is utilizing good food, than for the initial and unpardonable crime of murder. In my own case I know I should bitterly resent being killed, but once dead it would not only be a matter of indifference to me, but it would be a source of actual satisfaction to know that my earthly tenement had found sepulture in the bodily systems of my fellow humans—that my component atoms, or a good proportion of them, had re-entered on active work in society, so to speak, with such a pleasant abruptness, instead of being doomed to absorption by a mixed myriad of lower forms of life. How much more agreeable the prospect of having one's mortal remains consumed by a restless, enterprising hyæna or a soaring vulture (the beautiful Parsi notion) than to languish in the inactive forms of cemetery flowers and evergreen shrubs! It is this consideration which leads me to mention a beautiful and sentimental form of cannibalism now almost extinct, but which prevailed originally in parts of Asia, America, and Africa, where, as anciently among the Issedones of central Asia (*teste* Herodotus) and the Tibetans some six centuries ago, the bodies of those who died were reverently reduced to an edible paste and consumed by their relatives and friends. This practice may not be consonant with our ideas and scruples, but no one can refuse to admit its exquisite pathos and susceptibility for poetic treatment. The loving absorb all that is mortal of the loved one, and the latter in dying has the happy assurance that his or her dissolving molecules will not be scattered to the four winds of heaven, but will acquire new being in the old haunts and amid the attendant circumstances of their former activity. This conception must have proved strangely attractive to the metempsychosic mind of savage and semi-civilized man; but in some countries, and under ruder conditions of life, it lost much of its poetry and assumed a more brutal and practical form. "If," argued pristine and savage humanity, somewhat put to it to find sufficient subsistence, "if it is right and proper and economical to consume the bodies of the deceased, why wait till they die naturally? Why not forestall the inevitable, put them painlessly out of their misery, and reabsorb them into the bosom of the family? So it resulted in a curious phase of social economy, which prevails and prevailed in parts of Africa, Australia, and Polynesia (more especially in districts where food was scarce), where no old people were seen by the inquiring traveller, who learnt that as soon as they arrived at decreptitude they were painlessly killed and found a ready tomb in the maws of the young and middle-aged members of the tribe.* As the weakly children were also consumed by their parents, the community must have seemed always in a state of vigor, with a society forever in the prime of life.

Although they are never accused of superadding cannibalism to "senicide," still the ancient Sardi as Sardinia regarded it as a sacred and solemn duty for the young to kill their old relations when they were verging on dotage; and several classical authors give us a graphic and in some instances a pathetic description of the old mother knowing that her time had come, cheerfully and resignedly making preparation for her burial, and when all was ready, the grave dug, the funeral feast prepared, summoning her friends and relatives, and exhorting her weeping son to be of good courage, to strike hard and surely with the sacrificial club, and not to wince because the deed was painful to his filial feelings. Despite the tribal instinct which among many of the more highly developed birds and mammals prompts a spirit of *camaraderie* and mutual help among the fellow members of each community, and which intensifies the beautiful unselfish love of parents towards their offspring, we see but little respect or sympathy shown towards the aged and effete, who are either killed and eaten, or cast out of the tribe and left to starve. In very early human society there was probably no deliberate, organized slaying and consuming of the older, weaker members of the community, but such deeds were sporadic, so to speak, and what the French would call "regretable incidents." * *

Cruel as this practice is, and opposed as it may be to the principles which guide our social morality, it is interesting from a philosophical point of view to reflect on the effect it would have on the dispositions of the older members of our civilized communities. If, like certain tribes in west and southwest Africa, or in Australia, it was our custom to immolate and reduce to a kind of sublime Liebig's extract all the aged folk who showed unmistakable signs of failing powers, how preternaturally quickened would become the faculties of our elderly relatives! How they would wax in amiability as they waned in strength! What pathetic anxiety they would display to make clear to their critical kinsfolk how spry and active, how cheerful, willing, and attentive they remained, despite the failing sight, the whitening hair, the stiffened gait! In humble circles, Mrs. Gummidge would cease all reference to the "old un," and though her gaiety might be a little forced, still her unceasing industry and unvarying amiability would long stave off her inevitable doom. And when we ourselves, as our years increased and middle age lay behind us, felt the first warnings of approaching decreptitude, should we not hasten to repair the breaches of time, to foster and retain as long as possible our vigorous juvenility of mind and body? Should we not tend to become Liberal rather than Conservative in our old age, and so increase in sweetness of disposition and broad-minded charity towards all men that when the inevitable day came when our failing powers could hold out no longer, and a doctor's certificate compelled our reluctant relatives to do their duty, it would be with a feeling of sincere regret that they put an end to our individual existence, and ingested the essential extract of our mortal remains? Perhaps in a more advanced intellectual state than that we are in at present, we might view such a fate, such a culmination to our life and labors with resignation, caring less for individual than collective existence, and, with a rare unselfishness that at present we can only dimly appreciate, sinking our personal interests in the advancement of communal welfare. In a condition of thought like this a conscientious person who felt himself effete would offer himself up for reabsorption by those around him who had not spent their energies. Thus the pension list would be greatly reduced and the community kept at a certain level of vigor. But I confess, being myself still unregenerate, still selfishly attached to all that I call my own, my *ego*, incomplete and unsatisfactory though it be, I am thankful to think that our moral code is based on different lines from those which guide sections of African and Australian society, and which with little doubt were religiously followed by the communities of earliest man.

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* *Vide* Monteiro's "Angolo and the River Congo," "The Races of Australia," and most writers on the Pacific Islands and New Guinea.

One view taken, by such cannibals as have a dim idea of a soul, is a curiously negative one—it is thought that by eating a man you consume his soul *utterly*, and so finish him now and hereafter, and that therefore such a consummation is the most awful revenge you can inflict on your enemy. So when, three or four years ago, there was a tribal conflict at Brass, in the Niger delta, some of the attacked, who were nominal Christians, ate portions of the bodies of those whom they had slain, thinking thus to deprive them of the boom of future existence.

Thus it has often occurred in the past history of Europe and Asia, and in modern Africa, that whereas theoretically a human being is sacrificed to the ogre god or goddess, the victim is really represented by an animal—a camel, horse, ox, sheep, goat, or fowl—a descending scale that typifies a waning faith in the efficacy of the sacrifice. During some recent work in west Africa a certain native chief was anxious to prevent my explorations of such creeks and rivers as led to trading districts which he desired to remain unknown. Finding verbal dissuasion unavailing, and not liking to have recourse to physical force, he tried, as a last and somewhat despairing resort, to place supernatural obstacles in my way; so he directed that at the entrance to these forbidden creeks a live white fowl (lowest and cheapest sacrifice) should be suspended from a palm stake. Consequently I was frequently surprised and pleased at what I thought was a graceful token of hospitality posted at different points of my journey, and never failed to turn the fowl to account in my bill of fare. After this manner of disposing of the fowl-fetish had occurred several times, and yet I remained unpunished for my temerity by the local gods, the natives gave up further opposition to my journeys as futile and expensive. In talking this over on my return with one of the more advanced chiefs of the district, my native friend shook his head half humorously, half seriously over the decay of religious belief. A white fowl, he said, was "poor man's juju;" a few years ago it would have been a white goat, and in his father's time a white boy (albino negro), spitted on a stake to bar the way, and this last would have been a sacrifice that might well have moved the local gods of wold and stream to intervene; but a white fowl! *O tempora! O mores!*

Before many years are past, however, cannibalism will cease to exist anywhere, extirpated unhesitatingly by our disgusted civilization. Whether it will ever be revived is fortunately a question rather to be considered a thousand years hence than now, when and if the population of the earth shall have so increased at its present ratio that the statesmen of the period may find themselves confronted by the problem of organizing State-aided emigration to the other planets of the solar system, or sanctioning a certain limited consumption of the effete and unfit by the young and vigorous members of the commonwealth.

DISINFECTION OF SURGEONS' HANDS.—A great deal has recently been said about surgeons' nails and nail-brushes in hospital wards. Bacteriologists have come to the conclusion that the usual washing of the hands with weak antiseptics is quite efficacious in killing pyogenic and specific germs on the hands, but does not destroy micro-organisms which lodge under the nails. Dr. Fürbringer, of Berlin, believes in washing the hands with soap, then in alcohol at 80° F., then in a sublimate solution. The alcohol is said to soak well into the nails. Drs. Roux and Reynès have tried experiments with alcohol on nails purposely infected. In 40 cases where the infection was experimental, and carried on in a laboratory, asepsis was proved in 33. In 8 cases, where infection was clinical, the hands being washed in the usual manner after touching infected fluids in wards, only 4 were proved aseptic after the above elaborate system of washing. Drs. Roux and Reynès nevertheless advocate this antiseptic ablution, noting that the nails are seldom so thoroughly rubbed after every operation as when an experienced physiologist cleans them after some special experiment. In all cases of enforced sanitary measures routine practices and habits must be taken into account.

SKIN-GRAFTING.—Some interest has lately arisen on account of a report regarding the methods adopted in the case of skin-grafting· Dr. Stephen Smith, of New York, states in the Medical Record that several years ago he transplanted skin from an amputated leg, the operation having been done for several hours, and that the grafts grew vigorously. In a late issue of the *Medical and Surgical Reporter* there appears a communication from Dr. R. J. Levis, of this city, who says that more than twelve years ago he practiced this method successfully, and, while he thinks he was the first to do so, he prefers to be recognized as the first to condemn the operation, for reasons which he deems of paramount importance, and which every one conversant with the knowledge we now have of cadaveric alkaloids will readily understand. There is danger, also, in this method of conveying diseased conditions, and, on the whole, it is far better that the grafts should be taken from the patient's own skin, or possibly from that of one of his near relatives—a brother or sister.

DIPHTHERIA CARRIED BY A TURKEY.—A fowl with diphtheria was brought to the house of a veterinary surgeon on April 24, and died on the 29th. The feeding and nursing of the bird devolved on a lad æt. 14 years, who was assisted by his brother, æt. 5 years. On the evening of May 11 the writer was called to see the little boy of 5, who had been poorly for a day or two. He had enlarged cervical glands on the left side, which had come on rapidly. He was a delicate little fellow, with fair hair and anæmic aspect. The fauces were more or less covered with diphtheritic membrane, the left tonsil more especially. Under the administration of biniodide of mercury and iron the throat symptoms cleared up and the child made a good recovery. On the day after this case was first seen the boy who fed the fowl was very feverish and had similar patches over his fauces, but not to the same extent as his brother. A sister, æt. 9 years, had a similar explosion on the fauces. On the 18th the mother, who nursed them, was attacked and similarly treated. They were all kept well up with beef-tea and stimulants.—*British Medical Journal.*

EXERCISE AND FATTY HEART.—Recently there has been quite a revival of the suggestion, made many years ago by Professor Stokes, of Dublin, of the advantage resulting in fatty heart from systematic muscular exercise, as by gymnastics, mountain climbing, etc.

Doubtless, within certain limits, this advice may be followed with advantage, either with or without medication; but probably the greatest danger attending such efforts lies in the difficulty of securing moderation, and progressive increase in the amount of the exercise, without which danger to life would be materially augmented. Similar debility of the recti muscles is frequently found in cases of asthenopia, and is benefited by systematic and progressive exercise of those muscles. Both instances are but illustrations of what has been so long and so well known of not only the advantage but the necessity of proper muscular exertion, confined within the recuperative power of the muscles exercised. It seems requisite that old truths should often be retold, in new ways and with new illustrations, that sight of them shall not be lost. At present this is one of the illustrations, with a useful and practical object in view. It is to be commended if confined to the limits of safety, but the dangers, as well as the advantages, should be fully presented, with reliable guides to the recognition of impending danger, and a safe course out of it. Without these there will doubtless be other victims added to the list of those who have spasmodically evinced more enthusiasm than discretion in the matter of physical exercise, especially in the now popular athletics.

MEDICAL NEWS AND NOTES.

DOCTORS' BILLS.—The medical fraternity of Johnson County, Mo., adopted the following resolution: "After January 1, 1889, no account will be allowed to run over six months from date of first visit without satisfactory settlement. All accounts are due when services are rendered. Parties who are in the habit of running bills from one year to another without paying must continue to employ their former physician until he is paid in full, or pay cash for every visit in advance to the new one."

IN facial erysipelas, where you cannot conveniently apply ordinary means, paint the part with a 10 per cent. iodoform collodion.—*Gross.*

MALIGNANT SCARLATINA has been treated very successfully by Dr. A. Sharkorski (*Russk. Medits.*) with salicylic acid given hourly. He makes a solution of fifteen grains of salicylic acid in six ounces of hot distilled water and one ounce of syrup of orange; this does not deposit on cooling, and is readily taken by children. Dose, one teaspoonful to a tablespoonful every hour.

"IN menorrhagia, where all remedies have been tried without success, pass in a sharp curette and thoroughly curette the endometrium. I have yet to see the case in which this mode of treatment fails."—*Goodell.*

NEW NAME PREFERRED.—M. Trélat has suggested the name hysteropexy (*πηήις*, fixation, *πηγνυμι*, to fix) as preferable to hysterorraphy for the new operation now prominently considered by gynæcologists.

TEST FOR BLOOD IN THE URINE (Lechine).—Add one drop of acetic acid to every ten c. c. of urine, and then shake this with three c. c. of chloroform. After a few moments' rest the chloroform assumes a red color if the urine contains any of the coloring matter of the blood. *Journal de Médecine.*

DIPHTHERIA is announced to be prevailing in a virulent epidemic form in the town of Nagy, in Hungary. The schools have been closed, and a panic prevails owing to the excessive mortality amongst children.

NON-OPERATIVE TREATMENT FOR VAGINISMUS (Lutaud).—Before submitting women subject to vaginismus to operative treatment, which consists in dilatation under anæsthesia of the vaginal sphincter, the author advises a previous curative treatment as follows. Introduce every evening into the vulva the following suppository:

℞.

Cocoa butter	10 grammes.
Iodoform	1 gramme.
Extract of belladonna	50 centigram.

Inject three times a day a litre of very warm water, to which has been added a teaspoonful of carbonate of soda; then touch the vulva and vagina with a brush dipped into the following solution:

℞.

Hydrochlorate of cocaine	2 grammes.
Distilled water	20 centigram.

This treatment ought to be continued for one month. Efforts at coition should be made every two or three days, after having rubbed the vulva and penis with some lubricating substance, such as cold cream.

As confinement most frequently causes the disappearance of vaginismus, the author advises the hypodermatic injection of one centigramme of the hydrochlorate of morphine before coition. On account of the sedative action of the morphine, especially upon the genital organs, coition is thus possible, and often a single success is quite sufficient for conception, and consequently the cure of vaginismus.—*Journal de Médecine.*

THE Quarantine Conference of delegates from the States of Alabama, Louisiana, Mississippi, Texas, Florida, South Carolina, North Carolina, Georgia, Tennessee, Kentucky and Illinois, meets in Montgomery, March 5, 1889.

IN posterior displacements of the uterus always replace the organ before introducing a pessary. The frequent failure of its use is generally due to this cause.—*Parvin.*

DA COSTA recommends for the sore throat of scarlet fever:

℞.

Thymol	gr. iv.
Glycerini	
Aquæ destillatæ	āā f℥j.—M.

SIG.—Use as a wash (dilute further, if necessary).

—*College and Clinical Record.*

FOURNIER concludes that in about 25 per cent. of all cases in females, syphilis is acquired innocently and undeservedly.

DR. C. V. A. VAN DYKE, after a residence of more than a quarter of a century in Syria, writes: "There is not, and, so far as I can find out, never was (in Syria) anything like what has been called unfermented wine. The thing is not known in the East. In Syria, and, as far as I can learn, in all the East, there is no wine preserved unfermented."

PUERPERAL ECLAMPSIA.—A work upon the treatment of puerperal eclampsia by Auvard contains the following tabulated result of various methods of treatment:

I.—Mortality of Mothers.

1.	Purgatives	43 per cent.
2.	Forceps	42 "
3.	Bleeding	35 "
4.	Chloroform and chloral	34 "
5.	Version and delivery	38 "
6.	Preventive milk diet	28 "

II.—Mortality of Infants.

1.	Version and delivery	57 per cent.
2.	Bleeding	53 "
3.	Forceps	40 "
4.	Purgatives	37 "
5.	Chloroform and chloral	27 "
6.	Preventive milk diet	21 "

These statistics show the superiority of the preventive milk diet over other methods.—*Bul. d'Académie de Médecine.*

LESIONS OF THE PLACENTA IN ALBUMINURIA.—Rouhaud (Thèse de Paris, 1887) found that, among sixty-eight women affected with albuminuria, there were twenty-eight having lesions of the placenta characterized by hæmorrhages. Among eleven women with eclampsia, placental lesions were ascertained to exist in eight. In almost all the cases in which the lesions existed the patients were primiparous. These lesions can explain the hæmorrhages often observed in the course of pregnancy, as well as premature labor and death of the fœtus. We possess no sign which enables us to recognize this lesion, and its treatment is the same with that of albuminuria.—*Phila. Med. Times.*

VON LANGENBECK made it a rule to rise at four o'clock to pursue without interruption his literary work. Before beginning to write he took a cup of strong coffee "of his own make." He thus wrenched from the grasp of sleep three quiet hours for his most important work, and no one heard him say that he "had no time to write."

EDINBURGH will soon be supplied with salt water for all domestic and municipal purposes. A large number of English seaport towns are now using salt water, and all of these recommend its adoption. It can be introduced at a cheaper rate than can fresh water, and could be taken for four hours at least at each tide from Granton. According to one of the best engineers in the city, who has gone into the matter thoroughly, it could be brought into Edinburgh at a cost of twopence per thousand gallons. To those who delight in salt water bathing all the year round, the prospect of a salt water bath not artificially prepared is, indeed, one not to be lightly abandoned. It is to be hoped that the matter may be thoroughly threshed out. Edinburgh is some distance from the Forth, but there seem to be no obstacles which could not be readily surmounted.

AN International Congress of Physiology will be held at Basle on September 10th, 1889. The Congress, the idea of which originated with the English Physiological Society, will also embrace the subjects of anatomy, histology, physics, chemistry, experimental pathology, and pharmacology.

DETECTION OF PUS IN THE URINE.—Drop into the specimen of urine enough tincture of guaiac to give it a milky appearance, and heat it a few minutes to 100° F. If pus is present a blue tint will develop. Otherwise the urine may be passed through a white filter, on which is then allowed to fall a few drops of tincture of guaiac, producing, if pus is present, a distinct blue coloration.—*Pharmaceutical Era.*

THE NAVAL MEDICAL EXAMINING BOARD is now in session at the U. S. Naval Hospital, Philadelphia, for the examination of candidates for admission into the Medical Corps of the Navy as Assistant Surgeon.

The Board will remain in Philadelphia until the 31st of March, 1889.

After the 1st of April, 1889, the Board will hold its sessions at the Naval Hospital, Brooklyn, N. Y.

There are fourteen vacancies in the grade of Assistant Surgeon.

Further information may be obtained by addressing the President of the Examining Board.

J. MILLS BROWNE,
Surgeon-General, U. S. Navy.

NAVY DEPARTMENT,
Bureau of Medicine and Surgery.
Washington, D. C., January 16, 1889

THE man who is at present engaged in writing a book entitled "Is Old Age a Failure?" will find the following items of interest to him.

The oldest man in Germany was born in 1764 and is consequently 125 years old. He attributes his age to the fact that he, living on a farm, with no companions but the animals necessary for farming purposes, had from his earliest boyhood gone on all fours. He had consequently escaped many of the diseases common to the man who maintains the upright position throughout life.*

Also that D. S. P. Neklevitch, of Russia, died at the age of 109, just after having written a prescription. So old a physician certainly should have learned the dangers of prescriptions. Old age with him was evidently a failure.

WE sometimes imagine that the British railways are so well managed that they kill nobody. During the last nine months, according to the London *Times*, 696 people were killed and 6,086 injured on the British railways a slaughter as great as in a considerable battle.

HOW sponges bore into solid limestone or shells is as yet an unsolved problem. M. Nassonoff has investigated a new species of *Clione* which tunnels oyster and mussel shells, and he believes that the boring of the canals and galleries is performed solely by the soft parts of the sponge. The penetration of the prolongation of the body of the sponge into the shell appears to be accomplished by the secretion of a corroding liquid, probably an acid.

TREATMENT OF MIGRAINE (James Little). The author insists upon the good results obtained in the treatment of migraine by a combination of the salicylate of sodium with an effervescing citrate of caffeine. His method of administration is as follows: When the patient awakens, with somewhat of a headache, he orders him to take two gr. of the salicylate of sodium in a glass of water rendered effervescent by the addition of a desertspoonful of the granular citrate of caffeine. One can take a second and even third dose at intervals of two hours.

IN looking over our exchanges, we notice with pleasure our old friend, the *Scientific American*, undoubtedly the ablest paper of its class. In this week's issue there is an excellent table of contents. We are glad to see that this enterprising weekly is so thoroughly interested in sanitary matters, house drainage, etc. It is indispensable to scientists, and a great addition to the family library table.—Munn & Co., Publishers, New York.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—The Trustees of this institution have just procured on a long lease, with a view to purchasing, the large house next door to their present commodious premises. The babies' wards will be removed to this building at an early date.

The increased interest in post-graduate instruction has augmented the classes during the past year. The hospital of the institution is constantly full. The gravest operations are performed under the roof of the building.

---

*Since going to press we have been gratified to learn that a well known Brooklyn physician considers that men and women were origionally intended to walk on all fours, and that they would be in much finer physical condition if they did not persist in retaining an upright position.

ST. BARTHOLOMEW'S HOSPITAL AND DISPENSARY was opened on January 21, 1889, for the free treatment of patients suffering from diseases of the skin and genito-urinary organs. It is located at 84 Carmine Street, where its out-patient department is in running order. There is no hospital in the country, so far as we are aware, with the same sphere of work, and we are informed that when it is in full operation it contemplates the establishment of a system of outside medical work that must be of advantage to the city. Dr. George A. Peters is the President of the Board of Governors. He, Drs. George H. Fox and Charles McBurney, form the consulting staff. The visiting genito-urinary surgeons are: Drs. C. T. Adams, F. T. Brown, E. B. Bronson, William B. Clark, J. A. Fordyce and F. J. Leviseur. The dermatologists are: Drs. George T. Jackson and P. A. Morrow. It is hoped that the hospital itself will be opened for the reception of patients in a short time.

THE Fifth Annual Meeting of the Fifth District Branch of the New York State Medical Association will be held in Brooklyn, on Tuesday, May 28, 1889. All Fellows are invited to present papers, communications, relation of cases and specimens at the meeting. All *written* communications presented will be published under the direction of the Executive Committee.

E. H. SQUIBB, M.D., *Sec'y.* W. T. LUSK, M.D.,
P. O. Box, 94, Brooklyn. *President.*

THE Mills Training School for Male Nurses, in New York, was opened December 19th. There were 100 applicants, of whom 22 were admitted to the school. The *Doctor* says: "The old Reign of Terror in many of our hospitals is drawing to a close. The Warden of Bellevue Hospital began discharging the orderlies in the wards for male patients the other day, and filling their places with the students just admitted to the new Mills school for training male nurses. Now the male patients will probably be as skillfully nursed as the female patients have been for some time."

DR. D. LABBÉ reports the cure of a case of chronic migraine, of eight years standing, with the application of static electricity in thirty-four sittings.—*Journal de Médecine.*

ELECTRIC PROSTRATION.—"Several cases of this new malady are reported from Creusot, France. It affects workers under electric light. The light exceeds 100,000 candle power, and it appears that it is this excess of light, and not the heat, which produces the nervous symptoms. A painful sensation in the throat, face and temples is first noticed, then the skin becomes coppery red, and irritation is felt about the eyes; much lacrymation ensues, and these symptoms then disappear, while the skin peels off in five days. The effects are comparable to those produced by walking over fresh snow in the sunlight, and may be regarded as a sort of 'sun burning.'"—*Lancet.*

THYMOL.—Dr. Frederic-Henry recommends this on account of its antiseptic properties and extreme insolubility, in a great variety of intestinal disorders, such as acute and chronic catarrhs, typhoid fever, etc. He gives it combined with medicinal soap, in the form of pills, and in doses ordinarily of twelve to fifteen centigrammes every six hours. As a result of its use there is a lowering of the temperature, a diminution in the number of daily stools, complete absence of cerebral symptoms, and an improvement in the appearance of the tongue.

◆

EDITORIALS.

IT WILL BE REMEMBERED BY THE SUBSCRIBERS that this JOURNAL was the first to call attention to the necessity of divorcing the teaching from the licensing power in our medical colleges. We earnestly urged upon the profession that there was no other way of keeping their ranks from overflowing with incompetent men. The season is again approaching when the medical press will bewail the fact that thousands of young medical men will be liberated from their collegiate bonds and sent forth to the four corners of this fair country, but scantily equipped to advise their communities as to their sanitary matters or to attend the bedside of the sick.

It is impossible to realize the immense advantage the profession would gain if a law could be passed which would create in each State a central examining board, which would be empowered to grant the degree of M.D. The examiners would be free from any possible bias. The reward to the examiners would be the same, whether the student gained his diploma or not. Each student would pay his fee to the State, and thus create a fund whereby the examiners would be most liberally rewarded. This would doubtless be injurious to the monied interest of all the colleges in the country, but in this age of earnest and purified thought in the medical profession, and an ever increasing desire on their part to do what is noblest in order to promote the greatest good of the greatest number, we will not believe that any faculty would wish to throw an obstacle in the way of this great reform. Some small colleges would perhaps be obliged to close their doors, but the necessity for doing so would be entirely controlled by themselves. A small faculty composed of choice men would soon have no difficulty in raising their fees sufficiently to compensate them for the loss of their diploma fees. These small colleges are often the best in the country, but not having the *éclat* of the larger schools, they have been obliged to require smaller fees from the students, thus giving the student the impression that the teaching is not as valuable as in the larger schools. If it were an established law that each student should gain his diploma from the central examining board, there would be no longer such a rush on the more fashionable and prominent colleges. Every small institution, therefore, instead of losing a large proportion of their income with the loss of the diploma fee, would find their benches filled with brave and earnest students who preferred to seek the desired goal through the quiet halls and the uncrowded clinics to which each student would have access.

The larger colleges will surely need no friendly suggestions from us. They can be relied upon to see the silver lining behind the cloud, and in it will find their surest guide.

The Brooklyn *Journal* thus comments upon the subject, and we are happy to see that its views correspond to ours—in many regards:

" An effort will probably be made during the present session of the Legislature of the State of New York to amend the Medical Act of 1887, by taking from the medical colleges of the State the power to grant diplomas, and placing that power in a Board of Examiners appointed for the purpose. Theoretically, there can be no objection to such a law. It would be a crucial test of the work done in medical colleges, if candidates for a degree were obliged to present themselves before an impartial board and satisfy its members that the requirements of the law had been fulfilled, and that the applicants were qualified to practice the healing art.

The difficulties in the way of the organization of such a board are, however, very great. Following the natural tendency of similar organizations in this State, it would be very difficult to keep the matter out of politics, and all know of how much value a political board would be, and what the probabilities are that such a board would be any improvement on the present system. Every physician is not, by any means, qualified to become an examiner; and, from the very nature of things, the most competent men are those who have had experience in conducting examinations, which they could only get by being connected with medical schools. To place these men on the board, unless each school were granted a representative, would at once excite jealousy and opposition to the bill, and, if the act were amended, would place a board thus constituted constantly in jeopardy of having its action misconstrued. Again, the candidates for graduation, annually, in this State, are so numerous that a physician could hardly be an examiner and conduct his practice at the same time, and it would be an arduous task to persuade the legislators that a sufficient salary should be given such men to enable them to devote most of their time to the examination of students for the degree of doctor of medicine. If these obstacles can be overcome, we shall rejoice to see the law amended, and shall do what we can to bring about the desired result."

The difficulties in the way of the organization of such a board are doubtless great, as the *Journal*, just quoted, maintains; but we by no means think they are insuperable. On one point we beg to differ with the views just advocated. For our part we believe that in the constitution of this board the colleges ought not to be represented. The legal profession in this State has successfully coped with a similar question, and much can be learned from its experience. According to the law of this State, "No person shall be admitted to practice as an attorney or counsellor in any court of record in this State, except as provided in these rules, without a regular admission and license by the Supreme Court, at the General Term thereof, after a satisfactory examination conducted by the judge of such Court, or by at least three practicing lawyers of at least seven years' standing at the bar, to be appointed for one year, at the first General Term held in each year in the respective departments. The members of such committee of examination may be removed at any time by the Court, and vacancies for any cause or non-attendance may be supplied during the year." If the legal profession could accomplish such an end, the medical profession ought to be able to do likewise.

PREGNANCY, SUBINVOLUTION AND INSANITY.—Dr. W. Gill Wylie, of this city, has recently directed attention to an interesting subject, the development of which may perhaps be the means of restoring to health and usefulness a considerable number of women who would otherwise be left to a life of hopeless insanity. He has noticed that in those females in whom symptoms of mental aberration originate during the earlier part of pregnancy the trouble is almost certain to disappear by the end of the fourth month, when the uterus rises out of the pelvis; and, furthermore, that where such trouble has existed in the first months of gestation, it is exceedingly apt to return after parturition, and continue until the involution of the uterus has been completed. For a number of years he has been pursuing his investigations in regard to the matter, and so thoroughly has he become convinced of the correctness of his observations that when on one occasion he was asked to bring on abortion in a patient two months pregnant in whom symptoms of insanity had appeared, he refused to do it, and urgently advised that nothing of the kind be attempted, on the ground that after the fourth month, as shown by his previous experience, the insanity would disappear. His advice was followed, and the prediction which he had made was verified. After the fourth month there was no further trouble until the child was born; after which there was more return of the symptoms, which lasted until involution was completed, and then finally disappeared. The relations between the insanity and the condition or position of the uterus in this class of patients would seem to constitute a very interesting neurological study.

One case reported by Dr. Wylie is worthy of special note as illustrating the possibilities of affording relief in apparently hopeless cases. A lady from a distant city who, on account of insanity following parturition, had been confined in an asylum for six months, and brought to him to see if anything could be done to relieve her condition. On making an examination he found the uterus still much enlarged and with a double laceration of the cervix. Accordingly, after softening the uterus he repaired the laceration, and then procured local treatment until the involution of the organ was complete; when, much to his gratification, all symptoms of mental trouble disappeared, and the patient sent to her home well.

After the birth of a second child, however, there was a return of the same difficulty, and she was kept in an insane asylum for eighteen months. At the end of that time she was again brought to New York, the insanity being then of a comparatively mild type. Dr. Wylie had her sent to his private sanitarium, but she at once became so violent that he was obliged to have her transferred to the insane wards of Bellevue Hospital. She was seen there in consultation by Dr. C. L. Dana, who considered that she was in danger of epileptic trouble and expressed the opinion that her condition might possibly be due to uterine irritation. An examination revealed the fact that subinvolution of the uterus was present, and, in addition, disease of the ovaries and tubes. Dr. Wylie accordingly removed these organs by laparotomy, and after the subinvolution had been reduced the patient once more sent home entirely cured.

THE POETRY AND PROSE OF HYPNOTICS—MORPHINE.—Translated from Heinrich Heine by the late Emma Lazarus.

> Marked is the likeness 'twixt the beautiful and youthful brothers, albeit one appears
> Far paler than the other, more severe;
> Yea, I might almost say, far comelier
> Than his dear brother, who so lovingly
> Embraced me in his arms. How tender, soft,
> Seemed then his smile, and how divine his glance;
> No wonder that the wreath of poppy flowers
> About his head brought comfort to my brow,
> And with its mystic fragrance soothed all pain
> From out my soul. But such delicious balm
> A little while could last. I can be cured
> Completely only when that other youth,
> The grave, pale brother, drops at last his torch.
> Lo! sleep is good; better is death—in sooth,
> The best of all were never to be born.

Sulphonal as a hypnotic.—Rosenbach, Breslau, after experimenting with sulphonal, comes to the following conclusions: 1st. That sulphonal, in doses of one gramme (15 grains), is an uncertain hypnotic. 2d. That in two gramme doses, sulphonal is a certain hypnotic, which fails only in the rarest cases; there are no unpleasant symptoms following its use. Rosin's general conclusion is, sulphonal, in doses of two grammes, is a hypnotic not inferior to morphine, chloral and others, and, by reason of its freedom from injurious after-effects, even when four grammes are given, is to be recommended in all uncomplicated cases of insomnia.

If sulphonal shall prove to be a better hypnotic than morphine, let some poet strike his lyre in the praises of the former. Who will it be?

OWING TO A BY-LAW OF THE KING'S COUNTY ASSOCIATION, the February meeting was occupied by the retiring President. It is due to this fact that we are enabled to present to our readers three most interesting papers by Dr. E. R. Squibb.

THE result of the annual election in the King's County Medical Association was as follows: President, E. R. Squibb; Vice-President, T. M. Lloyd; Recording Secretary, J. C. Bierwirth; Corresponding Secretary, S. H. Benton; Treasurer, J. R. Vanderveer; Executive Committee, R. M. Wyckoff.

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ORIGINAL ARTICLES.

ARTICLE I.

THE SCOPE OF THE CURETTE IN GYNÆCOLOGICAL AND OBSTETRICAL PRACTICE.

By ANDREW F. CURRIER, M.D., of New York.

It is but a few years since the conclusion was reached that many of the infectious disease processes which, in many cases, were overlooked until they had been disseminated over large areas of the body, have a local origin, and that frequently they remain local for some time, so that if attacked during this stage at their source they may be eradicated. It does not follow that the tendency or diathesis which caused them can be so easily disposed of, but this tendency may remain dormant for months or years, and the same treatment may be resorted to again should another outbreak occur. Thus very many cases of scrofula, tuberculosis, carcinoma, sarcoma, etc., seen during the local stage have been successfully treated or held in abeyance. This fact marks a great advance in surgical pathology and therapeutics. The antiseptic principle lies at the foundation of the matter, but there is no surgical instrument which has been of greater value in producing this result than the curette. This instrument is of very general application and there is scarcely an epidermal, serous or mucous surface appertaining to the interior or the exterior of the body which is not susceptible to some form of disease in which the curette may be of service. It is probable that its earlier advocates did not dream of the variety of uses to which this simple instrument would be devoted. Though its field is so extensive this paper will consider it only in its application to obstetrics and gynæcology for which it was originally designed. The principle which is involved in its use is also to be discussed, rather than the variety or form of the instrument, which has resulted from its various modifications, for men will always differ as to the degree of force with which it is to be employed, and whether as a cutting, bruising, or scraping instrument. I do not hesitate to say boldly that no one who practices obstetrics and gynæcology can afford to be without some form of this instrument. It is as indispensable in its sphere, which is by no means a small one, as the obstetric forceps or the speculum. The ingenuity and perspicuity of the ancient fathers in medicine are constantly referred to as a proof, to a certain degree at least, that "there is nothing new under the sun," and while we find in their writings that they were cognizant of most of the pathological processes which have ever vexed mankind, and devised means crude enough at times, for treating them, it is also a matter of history that most of their methods of treatment have experienced an evolution which has been very slow, and have culminated in the more perfect methods only by very gradual stages. The results as we see them now seem little less than miraculous when compared with the results of treatment, or want of treatment of earlier times. In no department of medical science is this more true than in surgical gynæcology. It has taken many ages to develop abdominal surgery to its present standpoint. It has required much courage, much education, and the brushing away of many cobwebs of prejudice and superstition that the fact might be apparent and luminous that the uterus when diseased should be treated in accordance with the same rational principles which apply to those portions of the body which have usually been considered more accessible. When it is fully realized and taught to our children, in school and at home, that though nature may be kind, perverted nature is hostile and pitiless in the extreme, the physician will see more of the beginnings of disease, or better yet, manifold more consideration will be given to the *prevention* of disease. Without further consideration or investigation as to the possible remote origin of the curette we may regard Recamier as at least the modern inventor of both the instrument and the operation for which it was designed, and that astute gynæcologist called the attention of the profession to its value as a cutting instrument in the treatment of "vegetating endometritis" in 1846. He called it a *sonde curette*, and at other times a *gorgeret curette* (*Ann. de Thérapeutique*, Aug. 1846). Boureau, who has written the most exhaustive article on the curette that has ever appeared, which, indeed, leaves little or nothing to be said in regard to its history or usefulness (See *Nouv. Arch. d' Obst.*, *et de Gyn.*, February, March, April, May, June, 1888), divides its history into three periods, the first extending from its invention in 1846 to 1860 when it fell into practical disuse, at least in France. The second was the period of obstruction and partial oblivion, and extended from 1860 to 1872. The third began in 1872 when it was restored to use and was popular not only in France but in almost all other civilized countries, and still persists. Few voices are now heard in disapproval of it. Most of its former opponents are either silent or have become convinced of its value and are its pronounced advocates. The danger now is, especially among the younger practitioners, that all respect for the uterus as a very sensitive organ may be lost, and that the too zealous or careless use of the curette may give a series of results which need not occur with the exercise of good judgment and careful antiseptic precautions. A French writer has even advocated that the uterus should be thoroughly curetted after every parturition, whether normal or abnormal. Vulliet has coined the term *curomania* for the rage which prevails in certain quarters for curetting for every ill, real or imaginary, to which the uterus is subject. This excessive zeal for operating is not new and is by no means confined to this operation. It would, indeed, be difficult to recall any useful operation which has not suffered from such indiscretion. As Boureau has said, curetting is intended for chronic conditions, with one exception, and that is the condition in which portions of placenta or membranes are retained in the uterus after parturition, whether mature or premature. Among the principal advocates of the judicious use of the curette may be mentioned Simon, Schröder, Hegar, Martin, Olshausen and others almost as well-known in Germany; Simpson, Tait, Barnes, Duncan and others in England; Sims, Thomas, Goodell, Byrne and others in America; Recamier, Lisfranc, Maisonneuve, Nélaton, Nonat, Doléris and others in France; Bischoff in Switzerland, and other reputable surgeons and gynæcologists in Scandinavia, Denmark, Spain, Italy and Russia. True to history the curette found its greatest opposition in the land of its birth. "A prophet is not without honor, save in his own country and among his own kindred," and Recamier was compelled to defend himself and his invention against the attacks of such able antagonists as Dubois, Velpeau, Aran and Becquerel. Gallard opposed the use of the curette bitterly in 1872, but in 1877 became its advocate. Carl Braun, Scanzoni, Spiegelberg, Hildebrandt and Beigel were its opponents in Austria and Germany. Influenced more or less by the hostile writings of Aran, prominent British gynæcologists, among them being West, Churchill, Atthill, Bennett, and Greenhalgh, regarded the curette as useless or dangerous. In this country Emmett has denounced its use in no uncertain terms. It was recommended by Terrillon as early as 1855 for the treatment of uterine cancer, but Simon established its great value in this connection in 1872, modifying Recamier's instrument by making it entirely of steel, giving it a scoop or spoon shape, and thereby also increasing the danger attending its use. The value which Sims attached to the instrument is well known, and the instrument which he devised while less dangerous than that of Simon, certainly should be used with great caution. Lisfranc was the first to suggest the use of the dull curette, which he employed as early as 1847, without the aid of a speculum. His method was to grasp the uterus with forceps, draw it down nearly to the vulva, and then apply the curette, the indication being the general one of bloody or white discharges. The variety of instrument which is most frequently used in this country is that of Thomas which has the advantages of being somewhat flexible, of having a dull edge, of being in most cases perfectly safe, and of accomplishing the desired results in all conditions in which curetting is indicated, except in cases in which the uterus is invaded by cancer or other malignant disease when it becomes necessary to cut away and remove large quantities of tissue. In France no one has done more to revive the use of the curette, and to indicate the lines of its usefulness than Doléris, and in this task he has, like Recamier, excited no little opposition and acrimonious controversy. In a word, Doléris and his pupils may be said to have constituted the school of the curette in France, and to have contributed an extensive and valuable literature upon the subject. To the articles of Boureau already referred to I am indebted for nearly all the historical facts in this paper. As already stated the curette is chiefly indicated in chronic diseased conditions, the exceptions being acute puerperal endometritis, and that condition in which portions of placenta or membrane have been retained after mature or premature labor, which might give rise to sepsis, hæmorrhage, or inflammation were they allowed to remain within the uterus. It has two functions which are quite distinct from each other, the diagnostic and the therapeutic, and it is difficult to state for which of these functions it is the more valuable. It is no slight satisfaction to be able to know, after examining defective membranes or placenta, that one can ascertain with positiveness by passing the curette gently over the uterine mucous membrane whether portions still remain within the organ which will certainly work detriment to the patient if not removed.

This manipulation may be so gentle that not a thrombus in one of the uterine sinuses need be dislodged. Indeed, for purposes of diagnosis it is improper that it should be done in any other way. In like manner, for any non-parturient condition, the curette should first be used as but the prolongation of the index finger, and the requisite information should and may be communicated through the curette as readily as through the examining finger. There are many cases in which it is difficult or impracticable to introduce the finger into the uterus for diagnostic purposes, there are very few in which the curette may not be so introduced. The indications for the use of the curette for therapeutic purposes are the following: 1, hæmorrhage; 2, mucous or muco-purulent discharges; 3, sepsis; 4, pain. All these indications may appear in a single case, or there may be only one or more of them. Evidences of inflammation may or may not be present. If they are present, and the inflammation is of an acute character, it would be unwise and injudicious to use the curette. The general surgical rule is a good one that in the presence of acute inflammation interference by violent means adds fuel to the flame. Without doubt the chief and most prominent indication for the curette is uterine hæmorrhage. There are but two forms of uterine hæmorrhage that are physiological: one is the monthly hæmorrhage, which appertains to all healthy, unimpregnated women from puberty to the menopause, which may vary in quantity from a few drams to a few ounces, which should never have an exhausting effect, and is evidently nature's outlet for the relief of a periodical congestion; and the other is the loss of the few drams or ounces of blood which results from the separation of the placenta and membranes from the parturient uterus. Beyond this limit all discharges of blood from the uterus are a symptom of disease or violence, and demand a careful investigation, and, in most cases, local treatment. The hæmorrhage may proceed—

a. From a diseased mucous membrane.

b. From disease affecting the parenchyma of the uterus, especially from new growths.

c. From disease of the uterine adnexa.

d. From disease of the pelvic peritonæum or cellular tissue.

e. From stasis resulting from uterine displacements.

f. From new growths and adventitious tissue in the uterine canal.

The indication for curetting is not equally clear in all these conditions.

Disease of the uterine mucous membrane causing hæmorrhage has been recognized for ages, but Recamier recognized it in the form of an hyperplasia of the mucous membrane which he called "vegetating endometritis" and for this condition devised and used the curette. It is not often that a pioneer is so successful in important innovations like this. Within a short time after beginning to use this instrument, he published a series of 100 cases in which he had operated. Only one of these was fatal; and Nélaton, who made the autopsy, doubted whether death was due to the curette. Bischoff studied the disease to which Recamier had called attention, and divided it into four varieties, (*Correspondenzblatt für Schweizer Aerte*, 1878, 16–17; quoted by Boureau), but whether we look upon it as a granular condition of the mucous membrane, as an hyperplasia, or as a polypoid or fungoid condition, hæmorrhage is the usual phenomenon which accompanies it, and it is very satisfactorily relieved by the curette, the uterine tissues usually resuming a normal condition when the operation has been carefully and thoroughly performed. Hegar, Olshausen, Simpson, Routh, Savage, and many others have also called attention to this con dition and its successful treatment by the curette. The mucous membrane of the uterus is also extremely susceptible to the invasion of malignant disease with concurrent hæmorrhage. In the greater number of cases it is an extension of a similar process in the cervix, and the use of the curette is merely palliative. In advanced cases of malignant disease in which not only the mucous membrane, but the underlying tissues also are all extensively involved, curetting prolongs life and makes it much more tolerable, not only on account of relief from hæmorrhage, but also from the offensive discharges and pain which are so characteristic of this terrible disease. Aside from the hæmorrhage proceeding from malignant disease, in which the parenchyma becomes involved, whether the disease be carcinoma, sarcoma, or adenoma, uterine hæmorrhage is frequently associated with growths in the parenchyma which are benign. These include the entire class of fibroid growths, and the hæmorrhage is especially liable to be free and troublesome when these growths are located in the area of greatest vascularity of the uterus that is near the *os internum*. In any event as the growth approaches the mucous membrane, the vascularity and nutrition of that tissue are increased, and the free use of the curette in such cases frequently brings relief for considerable periods of time. Such treatment cannot be looked upon as radical, for the source of the disturbance remains.

Congestive and inflammatory conditions of the tubes or ovaries may be associated with copious uterine hæmorrhage. Unless the process extends to the uterine mucous membrane curetting will do no good. As a matter of fact, the uterine mucous membrane is first involved in a very large number of cases, especially in those in which the disease has an infectious origin. Curetting for such cases may serve a very useful palliative purpose.

Uterine congestion and hæmorrhage may attend disease of the pelvic peritonæum and cellular tissue. That this disease occurs in more or fewer cases irrespective of disease in the tubes and ovaries cannot be doubted, though to what extent is still an unsettled question. The great mass of clinical evidence which has been accumulating in the last few years certainly proves that disease of these organs is the principal factor in pelvic disorders far more frequently than would have been admitted ten or even five years ago. In the acute forms of this disease curetting should not be performed, but in the chronic, degenerated condition of the mucous membrane which frequently results from them curetting will be efficient.

Uterine displacements, especially posterior ones, are frequently attended with copious hæmorrhage, and this is apt to be unusually troublesome during the menstrual epoch. The most rational explanation for such bleeding seems to me to be the stasis which must exist in the venous system of the pelvis, at least in many of the cases. This is one of many facts which puts greater importance upon uterine displacements than is now the fashion in many quarters. A continuation of this condition of course implies hypernutrition of the uterine mucous membrane, and curetting becomes a means for at least temporary relief. The radical cure must come from a restoration to the normal mechanical conditions except in the few cases in which the pelvic apparatus and its dependences all apparently adjust themselves to the situation which is forced upon them. I do not recall any instance of this kind in which atrophy and sterility have not resulted from a failure to restore the normal conditions to the circulation. The most violent uterine hæmorrhage may occur from uterine polypi, and retention of fragments of placenta and decidua. For the first of these a cure will come after the cause has been removed; for the second the curette will act with a promptness and efficiency which can be equalled by nothing else. To summarize, it may be stated that if uterine hæmorrhage accompanies degeneration, infiltration, hyperplasia, or chronic inflammatory changes of the mucous membrane, there is no treatment which offers such satisfactory results as careful and thorough curetting, performed under anæsthesia and with antiseptic regulations, and followed immediately by the application of an astringent or caustic antiseptic solution—such as tincture of iodine, carbolic acid, or nitrate of silver (60 grains to the ounce.)

Mucous and muco-purulent discharges from the uterus—especially in connection with chronic catarrhal inflammation of the glandular system of the cervical mucous membrane are also readily checked by the use of the curette. This operation is so simple and usually so painless that it seems strange that it is not more generally adopted. It is with me almost a daily operation, and one from which I have never seen harm result. Like all other operations it should be done antiseptically, and preferably within a week after the cessation of the menstrual flow, as the normal pelvic congestion has then subsided. It is far more satisfactory than simply swabbing away the discharges with cotton, drawing them out with a syringe, or covering them with a layer of iodine or other astringent. An antiseptic astringent should be applied to the curetted surface, both to prevent toxic absorption and to supplement the work of the curette.

Sepsis is not an infrequent concomitant of the conditions which have been under discussion. In a closed or nearly closed cavity like the uterus if there is a tendency to decomposition the essentials warmth and moisture will not be wanting. Upon this rational basis the uterus is no longer the *noli me tangere* of the fathers but an organ to be subjected to suitable invasion when invasion becomes a necessity. The curette may not remove the septic influences which have been disseminated through the thousand mouths of the uterine lymphatic, but it frequently is able to stop the tide of such influences; and the rapid changes for the better which so often follow this operation in cases in which sepsis was present demonstrate that the poison may be rapidly eliminated and that if we can stop the current before the vital powers are overwhelmed, our chances of success are very good. The same remarks may be made concerning pain, which is a secondary symptom among the indications for curetting. Removing the cause when it really lies in the tissues which are curetted the pain disappears also, and that this does occur is a matter of too common observation to require argumentation. The operation in general is one which calls for so little skill that it is within the reach of every general practitioner, and there is no general practitioner who does not at some time or other encounter conditions which call for its performance.

159 E. 37th St.

ARTICLE II.

YELLOW FEVER. AN EXPERIMENTAL RESEARCH ON ITS ETIOLOGY.*

By PAUL GIBIER, M. D., Assistant to the Chair of Pathology of the Museum of Paris, Ex-House Physician of the Hospitals of Paris, etc., etc., Entrusted with the Mission of Studying Yellow Fever, by the Government of the French Republic.

In the beginning of 1888 I presented simultaneously to the Academy of Sciences of Paris and to the Academy of Havana, the result of the researches that I had undertaken on yellow fever, begun in the month of November, 1887. Since that time I have given a lecture on the whole of my work on the subject to the Academy of Medicine of Paris. In September, 1888, in consequence of these studies, the French Government, which four times before had honored me with its confidence for different medical investigations, commissioned me to go to Florida and study yellow fever which was prevailing there at that time.

When I arrived at Jacksonville, Fla., the epidemic had begun to diminish, but nevertheless, thanks to the courtesy of Surgeon-General Hamilton and of Dr. Porter, chief of medical relief at Jacksonville, I was able to examine as thoroughly as possible several subjects who died in the town, or in St. Luke's Hospital, where I had located my laboratory.

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* A paper read before the New York Academy of Medicine, January 17, 1889.

Before presenting the details of the cases I have observed, it will perhaps not be useless to examine a question which many physicians have asked themselves, and which they do not consider as being settled, viz.: *Was it veritable yellow fever which was observed last year in Florida, and in a few localities in the surrounding States?*

The relatively small mortality, and also the fact that the blacks were attacked in larger proportion as compared with the whites, have been the cause of these doubts. However, it is proper to remark that if in the West Indies they consider the black and even the mulattoes as having immunity from yellow fever, in the epidemics which have prevailed in the United States, on the contrary, the disease has been observed as well among the blacks as among the whites. (New Orleans, Memphis, Savannah, etc.) Moreover, in Jacksonville, a few days after the outburst of the epidemic, most of the white families left the town, comparatively few but negroes remaining. I shall add that it was remarked that, generally, the symptoms were less grave in the latter, and the fatality less considerable than amongst the white people.

Whatever it may be, I do not think that the question ought to be so simply stated; and according to my opinion, it is more complicated; and I think it is necessary to examine:

1st. If it was really yellow fever which was observed in the last epidemic at Jacksonville?

2d. In case of a negative reply, if it was a new disease?

3d. If all the cases registered were genuine? In other words, if there were not at the same time several kinds of fevers, as bilious, dengue, or malarial fevers more or less grave; and

4th. If yellow fever might not have assumed (at least in a certain proportion of the cases) a kind of hybridity, owing to the malarious character of the country.

Relying upon my observations, I will endeavor to answer briefly and in a general manner—not in detail—these several questions.

In limine I present it as a fact that many cases of yellow fever were observed in Jacksonville. For my own part, I have seen some cases absolutely characteristic, judged as well by the symptoms as by the anatomico-pathological lesions.

But it is not irrational to admit that a concomitant epidemic of bilious fever and many cases of malarial intoxication have existed simultaneously with yellow fever. On the sixteenth of November I made, at St. Luke's Hospital, the examination of a black subject who died on about the ninth day of his disease. I found the bowels normal; the liver was black instead of presenting the special color; the spleen was hypertrophied. I have no doubt that the patient succumbed to bilious fever; but, however that may be, it is certain he had not yellow fever.

At the temporary hospital (Sand Hills Hospital) Dr. Solace Mitchell showed me the thermometric charts of the patients, and in the greater number of them we noticed, by the intermittent form assumed by the fever (however the case terminated), that the paludal element awakened by the recent disease had stamped, as it were, its mark upon it, and made it assume one of those *hybrid* forms to which Prof. Verneuil, of Paris, has called attention.

It is likely that the cases, in diagnosticating which the observer hesitated, have been found, not in the centre of the town, but in the suburbs, and on the opposite side of St. John's River (South Jacksonville), where the sanitary condition is not calculated to preserve the inhabitant from malarial fermentations. It is easy to come to such a conclusion in view of the great number of shallow pools into which, as on the Ganges' shore, the neighbors throw their dejections. Observation VII., which I report hereafter, concerns a case which took place, precisely, in one of these localities; it seems, in my opinion, to belong to the category of pernicious fevers.

Before continuing this exposition I think it is necessary for me to quote the bacteriological observations that I have made. I regret having but a few cases to present; nevertheless these are interesting facts, and I may already say that they confirm entirely the more numerous observations that I recorded in Havana, at the end of 1887 and in the middle of 1888.

The *modus operandi* has been as follows: The substances which have been planted in cultures have been handled with all the precautions that are required; the liquids with sterilized Pasteur's pipettes and the solids (visceral matters) by means of a process that I have invented and which I will describe briefly. I obtain matter from the interior of a viscera by the use of a curette analogous to those which are employed for scraping the cervical cavity of the womb, with the difference that my instrument is curved instead of being straight. I cauterize, with a heated wooden-handled spatula, the viscera recently removed from its natural cavity, at the point into which I shall introduce the instrument, after having passed the latter through the flame. I plunge it into the parenchyma, revolve it several times, and withdraw it filled with pulp, which is then mixed with dissolved agar-agar or gelatine. The rest of the operation is executed as usual. If the post-mortem is performed far from the laboratory, I dilute the pulp obtained by the scraping with sterilized water, which is used afterward for the cultures on plates, the Esmarch's tubes, or in the Gibier's matrasses.*

A large quantity of tissue may be planted in that way, and if the organs contain cultivatable microbes† it is almost impossible not to obtain a great number of colonies.

Obs. I. and II.—The pieces taken in the first two post-mortems have been altered because of the delay, caused by the quarantine, in receiving my instruments, which got to Jacksonville eight days after my arrival. I notice these two cases, observed at the Sand Hills Hospital, only in order to relate that they presented the characteristic lesions of yellow fever.

Obs. III.—St. Luke's Hospital, Nov. 2, 1888. Man, æt. 42 years (white). Autopsy immediately after death. Taking urine from the bladder, blood from the heart (right and left ventricles), bile, and hepatic, splenic and renal substances, and black intestinal matter, I made cultivations of them. This is the summary of the results given by the cultures: Blood, sterile; bile, sterile; urine, sterile; kidneys (two Esmarch's tubes), first tube, sterile; second tube, one colony of a small micrococcus. The liquid at the bottom of the tube, although clear, contained some large and long bacilli. Spleen, three colonies of a large micrococcus. Liver (two Esmarch's tubes), one tube sterile, the other contains four colonies of large and long bacilli. *Intestinal contents:* black, neutral, different microbes in the cultures, but none dissolving the gelatine.

Remarks.—In this observation, the intestine did not contain the bacillus I found in such large quantity formerly in Havana. If this bacillus is really the cause of yellow fever, we must admit that, under still unknown influences, it may disappear after having produced the special intoxication. The same phenomenon is observed in a large proportion of cases of Asiatic cholera in regard to the comma bacillus of Koch. It may be thus satisfactorily explained in an affection which has lasted eight days.

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* *Vide* on these matrasses: *Bulletin Academy of Medicine* of Paris, September, 1888, and *Journal de l'Antisepsie*, Masson, Publisher, Paris.

† With a smaller curette the same process may be used for experimental work generally, and especially in tuberculosis, with the viscera of small animals, as the guinea-pigs.

As in my former observations, the blood did not contain any microbe. I shall add that the microscopical examination of it showed nothing abnormal either in the fresh state, or in desiccated or fresh, variously colored preparations. *It has been the same in all my observations without any exception.*

As for the different micro-organisms which developed in the cultures in the viscera, the number of the colonies was so small, and so various their composition, that we may admit that an accidental infection took place during the manipulations. But with the cultures in solid *media* there is no reason to fear the same errors as with the liquids. In the same conditions a liquid *medium* would have been full ot organisms which would have developed freely. In the solid *media*, on the contrary, a germ fortuitously introduced (during the various manipulations undergone by the preparations) remains where it is caught, but cannot invade the whole of the culture. If a microbe does exist, which might proliferate primarily in liquid and not in solid *media* (which as yet has not been seen), this microbe could multiply easily in the bottom of the Esmarch's tubes, where, after coagulation of the agar-agar, a certain quantity of bouillon accumulates always.

Although I admit (as I have in my preceding publications) the introduction of the micro-organisms into the viscera, as a possibility, owing to the alterations of the mucous membrane of the intestine, I consider the cultures of the liver, of the spleen, and of the kidneys of the preceding observation as having remained sterile.

Obs. IV.—Duval Co. Hospital, November 3. Man, æt. 45 years (white). Carried to the hospital in a semi-delirious state, increasing till death. Antecedent history obscure.

This case, for which I am indebted to the kindness of Dr. Drew, attending physician, did not present any characteristic anatomico-pathological sign. Post-mortem one hour after death. The skin and the subcutaneous cellular tissue presented a yellowish coloration. The urine, which could not be examined during the short sojourn of the patient in the hospital, taken and analyzed after death, contained a large amount of albumin. No possibility of knowing if the patient was catheterized before his admission into the wards. A muco-purulent discharge from the urethra. The bowels were almost empty; no congestion; the colorless matter which clung to its walls was neutral. The stomach, the walls of which were injected, contained a small quantity of a brownish liquid with some dark particles. Kidneys congested. Liver brown.

Some cultures were made with blood, bile, urine, kidneys, spleen, liver, and gastric and intestinal contents. Results of the cultures: *Blood:* sterile. *Urine:* a few colonies, a *micrococcus* of a medium size, growing on the surface of the agar, small colonies, poor, irregular, not liquefying the gelatine. *Bile:* rare colonies of a *torula* growing slowly. *Spleen:* four colonies of a large *micrococcus* and a colony of a mycelium (accidental infection). *Kidneys:* sterile. *Liver:* sterile. *Stomach* and *bowels:* common micro-organisms. Do not liquify the gelatine.

Remarks.—It is very doubtful if this patient succumbed to yellow fever.

Obs. V.—Case kindly furnished by Dr. Webster. Woman, æt. 35 years (slightly colored, "octoroon"), died at the jail, after four days' illness. She had presented the characteristic symptoms of yellow fever (black vomit, large amount of albumin, etc).

Nov. 7. Autopsy, eight hours after death. Icterus very intense; yellow coloration of the adipose tissue. Liver: "nutmeg" or "café au lait." Spleen small. Kidneys congested. Bladder empty.

The stomach and bowels contain a large amount of black liquid, *acid* in the stomach, but decidedly *alkaline* in the small intestine and neutral in the large. Cultures of blood, kidneys, liver, spleen, and intestinal contents. The cultures of the blood remained sterile. The kidneys, the spleen, and the liver contained a certain number of *diplococci*, the colonies of which spread quickly over the surface of the agar-agar, under the semblance of a semi-transparent cloud; they dissolve the gelatine very rapidly. It is the first time I saw this micro-organism. I did not find it in the bowels. It is also the first time that I found a microbe in the parenchyma of the viscera of a subject dead with yellow fever; but I must call attention to the fact that the autopsy was performed eight hours after death, in a surrounding temperature relatively high (the interior of the subject was still warm); all conditions very propitious for the growth of the bacteriæ of decomposition.

Some particles of the contents of the bowels, taken from different parts of the digestive canal, were diluted with sterilized water, and with them I made cultures on gelatine in my matrasses. Notwithstanding the large dilution, the colonies were so numerous that after twenty hours the gelatine was entirely dissolved in the first two matrasses. In the third (fourth dilution) on 106 colonies I counted ninety-eight which liquefied the gelatine.

I call attention to the importance of this fact: *all those liquefying colonies were formed by the microbe that I had isolated in Havana.*

Obs. VI.—St. Luke's Hospital, November 13th. White man, æt. 40 years. Died the eighth day of his illness, after having presented the classic symptoms of yellow fever. Autopsy one hour after death. Cultures with blood, urine, kidneys, spleen, liver intestinal contents, which were black and slightly *alkaline.*

Results.—The cultures of the blood, of the renal, splenic, and hepatic pulps, remained absolutely sterile. Cultures of the urine contained some colonies of micrococci, but I must add that the patient was catheterized several times at the hospital.

The cultures of the contents of the bowels taken, as usual, from different points, presented only common microbes.

Remarks.—This seems to have been a genuine case of yellow fever, but the pathogenic *bacilli* had disappeared from the intestine when death supervened.

Obs. VII.—*Nov.* 14. Case due to the courtesy of Dr. Kenworthy. Man, æt. 30 years (black), living in the swampy locality of South Jacksonville. The day before, twenty-two hours before succumbing, he had a violent chill, followed by a very high fever (109° F., axillary). A few days before, he had a slight indisposition, but recovered.

Autopsy at four o'clock in the evening, one hour and a half after death. The liver seems normal, the heart also; kidneys very congested, spleen moderately hypertrophied; urine very albuminous. The intestine contained a whitish matter moderately abundant, alkaline, and the stomach a small quantity of slightly colored liquid. No congestion.

Cultures made with blood, spleen, liver, and intestinal matter. It was not possible to obtain urine.

Results.—The cultures of the blood, of the kidneys, of the spleen and of the liver, remained sterile. The cultures of the intestinal contents were strewn with colonies almost exclusively composed of large and long bacilli, which did not dissolve the gelatine. Their colonies grew at the surface of the plates, with the aspect of a light pellicle, more or less irregular, and in the interior of the medium of the culture they were regularly spherical.

Remarks.—This seemed to have been a case of pernicious fever; albuminuria is observed in those fevers, as well as in the grave form of bilious fever, and in yellow fever; this symptom cannot, consequently, be used as an absolute criterion for the diagnosis. The indisposition which preceded a few days before, was likely a slight form which appeared before the fulminant access. It is not usual to see yellow fever striking down so suddenly its victims.

Now what is the value of the long bacillus found in the intestine? I cannot tell at present. I report the fact, only, with the hope it may guide some other researches.

After having related the preceding observations, it remains to draw some deductions from them. At first, I recognize that the number of my bacteriological analyses, in this second series, is very limited, especially if we consider that, of the five, I have hardly three undoubted cases. However, is it not remarkable to see that of these three cases (Obs. III., V., VI.), that in which death was more rapid (four days in Obs. V.) was the one in which the intestine contained the black and characteristic matter, and presented in such an extraordinary abundance and almost exclusively the same bacillus which I have seen in several yellow fever subjects in Havana?*

I recall the fact that I discovered this microbe first in some Spanish soldiers who died with yellow fever in the military hospital of Havana, and, several months after, in some foreign sailors, who succumbed to the same disease in the civil hospital of the same city. I did not find it in subjects dead with other diseases in the latter hospital. Now, after a year, I find it again, as it were, in the state of a pure culture, and in great abundance in the intestine of a subject who presented the symptoms and lesions of genuine yellow fever, and this in Florida, at Jacksonville, several days' journey from Havana.

I recall, also, that the cultures of this bacillus exhale an odor quite similar to that which I have remarked several times in black vomit; also, that its biological qualities are entirely in accord with the physiology of yellow fever itself, and in certain conditions I exposed formerly, it blackens the bodies it comes in contact with, so much so that some liquid cultures have the appearance of the matter of black vomit. But I am far from pretending, although it has been claimed that the last character, no matter how suggestive it may be, is pathognomonic. Of course my attention was attracted by this melanogenous property—which, however, does not always appear—but I was, above all, struck by the very considerable quantity of the bacillus in one of the first cases I analyzed.

Thus, I think I am right in saying that the presumption that this bacillus is the cause of yellow fever tends to become a certainty.

Besides, I must notice that in the cases in which autopsy took place early after death—as well in Havana as in Jacksonville—the blood, the liver, the spleen, and the kidneys have been constantly found free from microbes. This fact strengthens the theory that I have supported, viz., that yellow fever is an intestinal infection which must be treated *from the very beginning* with the evacuants and disinfectants of the intestines, as bichloride of mercury, naphthalin, and tannic acid.

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* After my first investigations had been published, Dr. G. M Sternberg also found the same bacillus in three cases of yellow fever in which he looked for it. (*Vide Cronica Med. Quirurg. de la Havana*, June, 1888.)

However, two objections may be presented, which I must answer: How is it that the microbe, supposed to be pathogenic, is not found in every case after death, and, if it has disappeared, how shall we explain the persistence and the aggravation of the accidents? Secondly, if yellow fever is a disease, the germ of which grows exclusively in the intestine, how shall we explain albuminuria? Let us examine the facts.

We do know that when a micro-organism has saturated any medium of culture, its growth stops. If another microbe is introduced, and grows in the medium transformed in that way, the first often disappears. This could explain the possibility of the disappearance (at any variable moment) of the microbe of yellow fever. I propose, at the very first opportunity, to analyze the dejections of several patients from the first day to the last. I should not be surprised to find my microbe only in the first period of the disease, at least in a certain number of cases.

As to the persistence, and eventually the aggravation of the accidents, they, in all probability, depend upon the more or less grave import of the lesions. The latter are due to the poisonous products, to the ptomaines secreted by microbes and absorbed by the blood vessels of the intestine, and more especially by the radicles of the vena porta.* We know that though the microscope and the cultures show the absence of bacteria in the liver, this gland, into which the blood of the vena porta first flows, undergoes, nevertheless, a fatty degeneration analogous to the one observed in certain cases of poisoning *per ingesta*. The spleen on the contrary, is of normal appearance, unless there is malarial complication or secondary infection. And, if the kidneys are congested and give passage to albumin, it does not mean that they are directly attacked by the bacteria; in typhoid fever, for instance, which may be considered as an infection primarily intestinal, albuminuria is observed without finding in the urine, at least in the beginning, the specific bacillus so easy to ascertain otherwise. Certain kinds of poisonings, also, produce albuminuria (lead, phosphorus, cantharides, etc).

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*As in poisoning by venomous mushrooms, notwithstanding the evacuation of the ingested substances, the visceral lesions are produced, and sometimes cause death.

Before finishing, I desire to remark that in my examinations I have ascertained that the contents of the intestine were alkaline or neutral; they were more decidedly alkaline in Case V., in which my bacillus was so abundant. I believe that the coloring matters contained in the intestine must contribute to induce observers to commit many an error on this subject; these matters color the test-paper yellowish-red, but they do not always discolor the same chemically. I do not pretend, however, that the intestinal contents might not prove acid (but then my bacillus would have disappeared from the intestine).* I once observed, in the civil hospital of Havana, on a subject who died from a mitral affection, that the intestinal contents were clearly acid, whilst the liquid contained in the stomach was alkaline. The post-mortem was performed an hour, or two at the most, after death.

It would be of the greatest interest to continue these researches. The experiments I have made on my bacillus have already given the explanation of the fact that yellow fever remains endemic on the seashore of hot countries and not in the interior; and of this other fact also, that an infected vessel may hibernate in glacial regions without losing the property of communicating yellow fever when she returns to a hot zone.

Other experiments, which I intend to publish later, induce me to think that, if the bacillus in question is really the cause of yellow fever, it would not be impossible to protect against that terrible disease the populations of the countries exposed to the epidemics.

SELECTIONS.

Repeated Abortions in Cases of Acute Uterine Flexion: an Illustrative Case. By Graily Hewitt, M.D., F. R. C. P., Emeritus Professor of Obstetric Medicine, University College.

The following case presents facts which are interesting in regard to the many questions which arise as to the pathology, management, and treatment of cases where acute flexion of the uterus is coupled with a great tendency to the occurrence of abortion.

Mrs.——, æt. thirty-three, was sent to me for consultation four years ago by Dr. Rendall of Lymington. She had been married three years. Had a miscarriage soon after marriage, after taking long

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* This bacillus does not live in an acid medium. This may be another cause of its disappearance from the intestine.

walks, but quickly resumed active life. The next year a second pregnancy occurred. At four months she suffered from acute pelvic pain and irritable bladder, and was obliged to lie down to prevent sickness. Much attention was required to prevent abortion or premature labor. She was delivered of a stillborn deformed fœtus at eight months. The next year she complained to Dr. Rendall of irritable bladder and inability to move much. He found the uterus anteverted. The treatment consisted of rest and distension of the bladder by retaining the urine as long as possible. A third pregnancy occurred, but troublesome symptoms were again observed, and I was requested to see the patient, whose history Dr. Rendall furnished. I found her seven weeks pregnant; the uterus seemed rising fairly well, but it was anteverted and inclined decidedly to the left side. Rest and careful general treatment were enjoined, but a miscarriage occurred notwithstanding at three months. The uterus was carefully examined two months after this third pregnancy; it was found large, congested, and flexed; cervix large, cavity half an inch too long. A cradle pessary was inserted, worn for several months, and then removed, uterus still a little too large. Patient felt much better. After an interval, symptoms returning, the pessary was again employed, with the effect of giving comfort. But examination showed that the anterior uterine wall was atrophied at and below the internal os, and it was thought desirable to dilate the canal with the object of loosening the (probably) contracted condition of the tissues around the internal os, and thus offer a better chance of the lower segment of the uterus participating in the process of expansion in the event of pregnancy. Accordingly, the cervical canal, including the internal os, was systematically dilated by a two-bladed steel dilator at intervals of a few days for a time, the dilatation going to the extent of the size of the little finger. At the end of the time the uterus was much improved in shape, and, as regards the anterior cervical wall, appeared to have gained in thickness. A cradle pessary was introduced, and five months afterwards pregnancy again occurred. I saw the patient when two months advanced in pregnancy. There had been a slight colored discharge, which appeared to be a threatening of miscarriage; and it was thought desirable, in order to prevent this, to enforce a more complete rest in addition to the use of the cradle pessary. The patient became sick, and suffered from a pain just to the middle line low down. Both the sickness and the pain were partially relieved by rest. Slight colored discharge occurred once again. It was found that the uterus projected forwards to the left, and lay very close to the left pubic bone. Pressure of a gentle character at this spot through the vaginal roof was occasionally practiced, always with the effect of removing the pain. The cradle pessary was made to assist in raising the uterus up at this situation. Up to the time of quickening great care was taken, the patient remaining in a reclining position, and continuing the use of the cradle pessary. Not until this time did the uterus properly rise out of the pelvis, and it seemed as if the contractions existing on the left anterior uterine aspect only gradually gave way. Dr. Boxall saw the case in my absence from town, and carried on the treatment, and on my return the patient was found able to move about more; the pessary had been removed at mid-pregnancy. The pregnancy went full time, and a healthy male child was the result. The mother had all along dreaded that the child might be again deformed, so that the event of the case was every way satisfactory.

From what I have seen of cases such as that above described, the distortion of the uterus, accompanied by the resistance and contraction of the tissues around the internal os uteri, offers an impediment to the natural expansion of the lower section of the body of the uterus, one or both of which may bring about the abortion. In cases where the induration at the part in question is not considerable, it gives way, the organ loses its flexed shape, and the uterus is more free to expand and to rise in a proper manner out of the pelvis. But when the tissues are more resistant, owing to the sclerotic condition which is found in chronic cases, expansion is rendered difficult, not only by the contracted state of the tissues, but by the obstacle created by the fixation of the organ in a flexed shape. The "habit" of abortion, as it has been termed, probably depends in many instances on inexpansibility of the uterus, of which the case related is an instance. In this case the "habit" was broken through by treatment suggested by this view of its pathology. The preventive treatment consisted in preparation of the uterus for pregnancy by the use of a pessary and by dilatation (which it must not be forgotten, includes straightening) of the cervical canal. Pregnancy having occurred, the elevation of the fundus uteri was favored by the dorsal position, by the use of a pessary, and by occasional pushing up of the fundus, on the left side particularly, through the vaginal roof. During the first half of the favorably ended pregnancy it seemed quite certain that a miscarriage would have occurred but for the help to the raising of the fundus out of the pelvis afforded by the use of the cradle pessary, and by the gentle occasional pushing upwards by pressure of the finger. In this way a perfect control over the pain and tendency to sickness was obtained. As regards the sickness, it was never serious, and is only mentioned because in this case, as in many others, the tendency to sickness was relieved by the same procedure as that which removed the pain. It is worthy of note that, when pain was present, a tender spot was always recognized at the left side of the anterior cervical wall, and this tenderness disappeared on pressure being made upwards. My impression was that at this spot there was rigidity, compression, and consequent irritation of nerves. As the expansion of the uterus, assisted in the way described above, proceeded, it may be presumed that the nerve compression became less and less.

Cases of chronic anteflexion, with induration and compression of tissues round the cervix, are associated with abortion in not a few instances. They are amenable to treatment conducted on the principle of giving assistance to the unbending of the uterus in the early months. The cases in question appear to be not uncommonly overlooked, because the anteflexion is too generally considered as the natural condition of the uterus in the majority of cases. There is, however, a wide difference between anteflexion in gravid cases in regard to the condition of the tissues. If the tissues of the cervix are soft and natural, the anteflexion is possibly of little moment, as the obstacle to elevation of the fundus and unfolding of the uterine walls is not insurmountable. But when the anteflexion is coupled with induration, the raising of the uterus and the unbending of the organ are rendered difficult. The result is liability to abortion. The presence of rigidity and immobility is generally easily recognizable to the touch, and constitutes an indication of the necessity or otherwise for special treatment.

So far as interference with uterine expansion is concerned, there is in principle little difference between cases of retroflexion and anteflexion. The remarks above made have been limited to the case of anteflexion. There is the less necessity for adverting to analagous difficulties in cases where, the uterus being in a chronic state of retroflexion, a tendency to abortion arises, because the nature of these latter cases is better and more widely understood, and because the utility of raising the fundus in such cases is pretty generally admitted.

ON HYSTERICAL MOTOR AFFECTIONS OF THE VOCAL CORDS.*

BY JAMES BALL, M.D., M.R.C.P., Physician to the Throat Department and Senior Assistant Physician, West London Hospital.

In presenting this sketch of the motor troubles which affect the vocal cords in hysteria, I wish to say, at the outset, that, whatever objections may be offered to the term "hysteria," I feel it is one that is thoroughly well established and understood. The group of affections associated with that special morbid condition of the nervous system universally designated hysterical is quite familiar to all of us; I shall therefore offer no definition of the term, and shall not discuss the advisability of substituting for hysteria such alternative terms as "neurasthenia," "neuromimesis," or "functional disease." Among the commoner manifestations of hysteria are those affecting the motor functions of various parts of the body, and these manifestations take the form of impaired movement, paresis or paralysis, of exalted movement or spasm in some form, or finally of such perversions of movement as may be classed under the head of inco-ordination. It might, therefore, seem that, in reciting the motor affections of the vocal cords in hysteria, I could not do better than endeavor to range them under one or other of these heads, and consider each form according as a muscle, or a group of muscles, was affected in one or other way. And no doubt, for the purpose of scientific classification, this method would be the most desirable. Since, however, I am anxious to present these affections as they are met with in the routine of practice, characterized by certain prominent symptoms, dependent on derangement of some important function, I rather prefer to consider them now in relation to the special function deranged.

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* Read before the West London Medico-Chirurgical Society, Dec. 7th, 1888.

The vocal cords, forming as they do the greatest part of the boundary of the glottic aperture, and being subject to variations of position and tension, under the control of various muscles are concerned in two important functions—viz., respiration and phonation. In respiration, as the air passes to and fro, the cords recede from each other, widening the glottis, during inspiration, and approach towards each other, narrowing the glottis, during expiration. In phonation the cords are closely approximated and made tense. In accordance with these two functions of the glottis, the motor disturbances of the cords met with in hysteria may be conveniently considered. Through perverted action of the muscles which abduct and adduct the vocal cords, the glottic aperture may be so narrowed as to offer an impediment to the due passage of the respiratory currents, causing dyspnœa, or through perversion of these same muscles, or of those which regulate the tension of the cords, an impediment is offered to normal vocalization, causing dysphonia or aphonia. Phonation is more frequently affected than respiration. Loss of voice is, indeed, a common and familiar hysterical symptom. Nor is it surprising that the voice, which is the principal channel for the expression of the emotions, should be frequently affected in a disease like hysteria, so largely dependent on emotional states. Loss of voice in hysteria is sometimes merely voluntary, the patient, owing to a general hyperæsthetic condition, habitually speaking in a whisper, although able to phonate. More often, however, there is real inability. The onset of aphonia is usually sudden, and often follows some psychical excitement. The loss of voice may be complete, the patient being unable to speak other than in a whisper; or the voice may be merely weak, rough or hoarse. In some cases the loss of voice is intermittent, periods of complete aphonia alternating with periods of normal or impaired voice. The voice may come back as suddenly as it went, and not unfrequently too under the influence of fright or sudden emotion. During sleep the completely aphonic patient may cry out loudly in a natural voice. A sound of perhaps normal loudness will generally, though not always, accompany a sneeze or a cough, and this whether the cough be a voluntary or a reflex act. When excited to laughter, the patient may laugh with an audible vocal sound. More striking still is the fact that the patient who cannot utter a sound in speaking may be able to sing perfectly well. In the case of a young lady with marked hysterical aphonia, whom I saw some time ago, and who had been unable to speak or sing for some months, the power to sing returned suddenly on hearing a younger sister making a poor attempt at one of her favorite songs. The patient pushed her young sister from the piano and sang the song herself. After this she could always sing, but the speaking voice did not return for several weeks. In exceptional cases the patient may be unable to speak even in a whisper, not being capable of performing the necessary movements by which articulation is effected. Merely a vague movement of the lips takes place on attempting to speak. The laryngoscopic appearances of the movements of the cords, in the forms of aphonia, above mentioned, though somewhat variable, are, on the whole, characteristic. Imperfect approximation of the cords is the constant feature. In a marked case, on the patient's attempting to phonate, the cords remain perfectly immovable during the attempt, or approach each other only slightly, all the adductors more or less refusing to act; or the cords may approach each other more or less perfectly in their anterior two-thirds, and leave a triangular space open behind, the tranverse arytenoid muscle not acting; or an elliptical space may be left between the approximated cords, indicating imperfect action of the tensor muscles. In some rare cases a different state of things exists. Dr. Bristowe, in his Cavendish Lecture in 1885, related the case of a hysterical girl suffering from aphonia, with inability to whisper. Here Dr. Semon reported that, on attempting to phonate, the cords came together well. There was no inability to move the vocal cords or the tongue or lips, but, as Dr. Bristowe remarked, some inability to act, on the part of the centres which regulate the complex group of actions that subserve phonation and articulation.

There is a rare form of hysterical aphonia which has some differences in its clinical features from the cases ordinarily met with, and differs also in the method of its production. While in ordinary cases of aphonia the patient makes little or no real effort to speak, in this form the striking feature is the very marked and sometimes painful efforts made by the patient to get out the sounds. The words may be got out with difficulty or in a falsetto voice, or no vocal sound whatever may be produced, notwithstanding the efforts of the patient. It is obvious that the patient has difficulty in getting air to pass through the glottis while attempting to speak, and the strong expiration which usually follows the attempt indicates that the glottis was closed. The laryngoscope shows this to be the case. The vocal cords move normally on respiration, but on attempting to speak they close together spasmodically, perhaps even overlap, and either exclude the passage of air altogether or only allow a little to pass through a narrow triangular opening at the posterior third. The condition is known as aphonia spastica. It is analogous to writer's cramp, in that a particular action brings about spasm of the muscles concerned, but it may occur as a purely hysterical phenomenon.

Passing now to the respiratory troubles, or laryngeal dyspnœa of hysterical origin, the first form to be mentioned is that sudden closure of the glottis which is complicated with a general hysterical convulsion, and causes complete arrest of the respiration for several seconds. It may terminate with a loud stridulous inspiration. Such a closure of the glottis may entirely replace a general hysterical convulsive attack. This form need not be dwelt on further. More chronic and less complicated forms of glottic constriction are of greater interest. In a common type of the malady the attack of dyspnœa occurs suddenly, perhaps after some emotional excitement. Inspiration and expiration are loud and stridulous, inspiration being generally the louder, and sometimes having a crowing character. At times the dyspnœa increases and may present most urgent symptoms. The stridor, cyanosis, and muscular action attest the severity of the struggle for breath. The breathing is often very hurried, hysterical rapid breathing, in that respect contrasting with the measured, labored, breathing of organic laryngeal obstruction. Very often the voice is weak, or complete aphonia may exist. In other cases phonation is good. The dyspnœa may persist with remissions and exacerbations, sometimes with complete intermissions for days, weeks, or months. It ceases entirely during sleep. In certain cases the dyspnœa is purely inspiratory, expiration being quiet and easy. In this form it sometimes happens that the dyspnœa occurs only, or chiefly, on exertion or excitement—that is, when the respirations are more deep than usual. In some patients the attacks of stridulous breathing are of a more paroxysmal character. At varying intervals of minutes or hours, attacks of stridor and more or less dyspnœa occur, inspiration here also being often loud and crowing. After a few stridulous respirations the attacks cease, to recur again at varying intervals. The paroxysms occur without apparent cause, or may be excited by emotion, sometimes by coughing or swallowing. Many other variations will be met with in hysterical stridulous attacks. In the case of a girl æt. thirteen, presenting other hysterical phenomena, whom I saw a short time ago, the attacks at the period I saw her had a very peculiar character. Each attack was preluded by facial twitchings, and then came three or four extremely loud inspirations, which were in reality loud piercing inspiratory screams, and were followed by a cessation of respiration for some seconds. The whole attack was attended with marked and alarming symptoms of dyspnœa, so that the propriety of performing tracheotomy to prevent a fatal accident during one of these attacks had been very naturally under consideration. Laryngoscopic examination in ordinary cases of hysterical stridor shows the vocal cords more or less closely approximated to the middle line during inspiration and expiration. If the mirror be kept in position some time, the cords will be seen often momentarily separating and then closing up again. In some cases the cords will be seen to approach each other during inspiration and separate during expiration, the exact reverse of the normal movements; but the extent of the closure and separation is by no means regular, and varies with successive respirations. These are the cases, above mentioned, in which dyspnœa and stridor attend inspiration alone. In very rare cases the cords are said to present the appearance of bilateral paralysis of the abductors of the glottis. A narrow cleft only exists between the cords, which is still further narrowed on each inspiration. I have never seen this condition in hysterical stridor.

There is one other affection that must be mentioned in this connection, although here the glottic closure is complicated with spasmodic action of the expiratory muscles. This is the affection known as hysterical cough. The cough varies much in character in different cases, but is mostly dry, loud and barking, or shrill, or of metallic quality. It is often of a short rhythmic character, and may be almost incessant; or it may occur in paroxysms, and in some cases these paroxysms tend to recur at certain periods of the day. Hysterical cough may be associated with whooping inspirations and signs of dyspnœa. The cough is intensified by emotional causes, and is apt to be worse when people are present than when the patient is alone. It ceases during sleep. Laryngoscopic examination gives negative results.

The preceding account of the motor troubles of the vocal cords in hysteria does not pretend to be exhaustive. It has only been attempted to indicate the leading features of the chief affections. The symptoms having more or less resemblance to those of other diseases, it will be well to briefly summarize the grounds upon which a diagnosis of their hysterical character will be made. There are, in the first place, those general considerations which apply to the diagnosis of every hysterical malady—such as the age, sex, habits, and physical, mental, and emotional condition of the patient. Hysterical affections of the cords, like other hysterical affections, occasionally occur in girls before puberty, as well as in men and boys. The presence of other undoubtedly hysterical symptoms will materially aid the diagnosis—such as attacks of hysteria, hemianæsthesia, paralysis, and contracture of limbs. Certain peculiarities in the attack will point to the hysterical origin, such as the sudden onset, the relation of the malady to emotional causes, whether arising as the result of such causes, or being aggravated thereby. The persistence of the voice for certain acts—such as coughing, sneezing, or singing—is highly characteristic of the hysterical nature of an aphonia. It is characteristic of the hysterical aphonia, not including, however, the rarer spastic form, that the patient usually evinces little real effort to speak, and there may be even a marked immobility of the lips during the attempt. The cessation of stridulous breathing during sleep is peculiar to hysterical stridor. Chloroform narcosis will also cause its complete cessation, and both in sleep and in the earlier stage of chloroform narcosis the emission of vocal sounds may decide the nature of an aphonia. The coincidence of marked sensory trouble about the pharynx, palate and larynx points to the hysterical origin of the affection. This is sometimes of the nature of hyperæsthesia, but more frequently of anæsthesia. Such patients may be particularly tolerant of laryngeal mirrors, and easily bear the introduction of an instrument into the larynx itself. Laryngoscopic examination is, however, the most important means of establishing our diagnosis. There is an absence of gross disease of the larynx. The vocal cords will usually be of a perfectly normal color, or may be merely somewhat congested. The various disordered movements above described will be recognized. These are almost always bilateral, and equal on the two sides. They, for the most part, bear no resemblance to the effects of organic disease. Tremor of the cords is often seen in all hysterical affections.

Some of these affections are very intractable, and may require us to bring to bear all those principles of treatment which have been found serviceable in other forms of hysteria. Into these I need not enter. Most cases of aphonia yield readily to suitable treatment. Derangements of health must be treated from the first. Iron and strychnia are often indicated. We must impress on the patient the absolute certainty that the aphonia can and will be cured. If laryngeal catarrh be present, we must apply suitable treatment, especially direct applications with the brush, which have a good moral effect. The preceding course, combined with occasional strong, peremptory exhortations to use the voice, will often succeed in affecting a cure. If not, faradism should be used externally—or, better still, internally. A strong current should be used, and it is important that the first application should be attended with decided benefit, if not complete cure. In the treatment of the various kinds of stridor, it is advisable, once having made our diagnosis, not to exhibit to the patient too much concern or alarm. In some of these cases the dyspnœa is really alarming, but any sign on our part that we consider the case very serious or very extraordinary tends to aggravate the symptoms. In looking over the records of cases, one finds that tracheotomy has been performed in cases of stridor that were in all probability hysterical, and yet the tube had to go on being worn indefinitely. When urgent and persistent dyspnœa exists, inhalation of chloroform, short of anæsthesia, will relieve the symptoms. Otherwise the treatment of hysterical stridor and hysterical cough must be mainly of that kind which is beneficial in other hysterical maladies. Relapses are apt to occur in all these motor affections of the vocal cords, and it is by a judicious employment of general treatment, both physical and moral, rather than by local or special treatment, that relapses can be effectually guarded against.

Wimpole Street, W.

Aphorisms in Aseptic and Antiseptic Gynæcology. F. T. Merriwether.

Bacteria require a certain amount of water to develop, and if we can keep our wound surfaces dry, we keep it aseptic.

The country doctor can always practice aseptic and antiseptic gynæcology as easily as his city brother who is always near his base of supplies.

The gynæcologist should always carry either a solution of the bichloride of mercury, or the antiseptic tablets, which are perfectly reliable and are made by several good houses; carbolic acid, iodoform, gauze cotton, bandages, nail brush and soap.

A convenient way of carrying the bichloride is to make a solution of ʒ j to ℥ j of alcohol; of this ʒ j in a pint of water makes a 1-1000 solution; or you may carry 7½ grains of the salt and 2½ grains of sodium chloride in a capsule; dissolving one in a pint of water also giving a 1-1000 solution.

A more condensed way of carrying it is to make a solution of 1 1-12 grains of the bichloride in 2 minims of glycerine, with the addition of ¼ grain of sodium chloride. This represents about 1 grain of the sublimate to 2 minims of solution, a small part being thrown down as calomel. Of this 15 drops to the pint make a 1-1000 solution.

The bichloride in an acid solution is more efficient as an antiseptic than in a neutral or alkaline one, and therefore it is well to add 5 parts of hydrochloric or tartaric acid to each 1000 parts of the solution. This also prevents, to some extent, the decomposition of the sublimate, and prevents the formation of the albuminate of mercury, an inert chemical, when brought into contact with the albumen of blood or serum.

Carbolic acid should be in pure crystals, of which ʒ vi to the pint of water makes a 5 p. c. solution. A little more elegant preparation, and one which has no effect on polished steel, and at the same time is devoid of the odor and caustic properties of pure carbolic acid, is a mixture of 1 part carbolic acid crystals, and 3 parts powdered camphor. A 20 p. c. solution of this has the same germicidal properties as a 5 p. c. carbolic acid.

Iodoform may be carried in a tin pepper-box fitted with a lid to prevent spilling.

A solution of equal parts of pot. iodide and the biniodide of mercury, 1 to 4000 strength, is a most valuable antiseptic, being efficient, and can be applied to the skin in a 5 p. c. solution without causing any irritation.

Instruments should be of the best steel, welded in one piece, or else the handles should be baked on, and instruments of more than one piece, such as forceps, etc., should be provided with patent locks, so we may take them apart and wash and cleanse every crack and crevice; they should be highly polished, preferably nickel-plated, except the cutting edge. The handles should be smooth, with no rough places or notches for the lodgment of dirt and septic matter.

Dressings may be bought in the shape of iodoform and bichloride gauze, etc., but they are not satisfactory unless bought and used fresh; and then, they may be made cheaper at home. To prepare the bichloride gauze, take 1 part of sublimate, 2 parts common salt, and 500 parts water; the gauze is made of cheese cloth, boiled in water with a little soda until the grease is taken out. Soak this gauze in the above solution for an hour, and then wring out and partially dry. Put it in a glass jar, air-tight, keeping end slightly moist, and it will stay in a good condition for several months. Iodoform gauze is made by mixing ʒ iii of powdered iodoform with ℥ vi of castile soap-suds, making an emulsion; rub this into 2½ yards of gauze, this making a 10 p. c. gauze, which is sufficient; while for a 25 p. c. gauze use ʒ vii of iodoform.

The best mode of rendering instruments and dressings sterile is heat. If the instruments are placed in a pan of water and the water brought to the boiling point and kept there for ten minutes, bacteria are killed and the growth of even the spores is much retarded. To insure boiling of all the water, the pan should be covered. This is probably the best and most practicable method of rendering instruments aseptic. They should be boiled both before and after an operation. When this is not convenient, a carbolic acid solution of 5 p. c. strength should be used for instruments, it being less corrosive than the bichloride, and does not dull the scissors much. The camphorated carbolic acid is also efficient.

Tannin wool is an excellent styptic and antiseptic. To make it, add to distilled water pure tannin until saturated stirring all the time; then add cotton wool until all the solution is taken up; put into an evaporating jar and dry, and then keep it in a closed jar. Before using it should be teased out. It may be iodized by adding an ethereal solution of iodine, 1 gr. to ʒ ii, allowing the ether to evaporate.

Sponges should be cleansed by washing them thoroughly with green soap and a 1-1000 bichloride solution. Take new sponges which are freed from sand by beating, and soak them in a 1-1000 solution of potassium permanganate for twenty-four hours. Then, after washing out the permanganate with warm water, immerse them in the following solution until they whiten, but no longer: Take of sodium sulphate 1 part, 1-5 part of a watery solution of either hydrochloric or oxalic acid of a strength 8 parts to 100, and of water 100 parts. Taking them out of this, they should be thoroughly washed in clean running water, and then kept in a carbolic acid 1-20 or bichloride 1-1000 solution in a closed jar until used. Cleaning sponges with a 1-5 solution of sulphurous acid in water after an operation renders them perfectly white, so you may detect any clots or detritus which may have become enmeshed. A sponge which will sometimes come handy is made by taking balls of absorbent cotton of convenient size and tying around them mosquito netting. These, soaked in a 1-20 carbolic acid, or 1-1000 bichloride solution, or boiled for ten minutes, are practically asceptic. Half-a-dozen or more should be kept on hand, and being so cheap, should only be used once.

Sutures and ligatures may either be silk, gut, silver or tendon, and should have been rendered aseptic in a 1-20 carbolic acid or 1-1000 bichloride solution, or in case of gut, in oil of juniper; or else they should be soaked or dipped into boiling water for a minute or two just before using.

The hands should be thoroughly washed with a nail-brush and soap, preferably one of the antiseptic soaps, of which the biniodide of mercury is the best. Particular attention should be paid to the nails, cleansing the subungual space thoroughly. A 5 p. c. solution of carbolic acid is rather too irritating to use on the hands, and so the following method is recommended: After using the brush and soap, immerse the hands in 80 p. c. alcohol, which removes the oily layer always on the epidermis. By then rinsing them in a 1-1000 bichloride or 1-35 carbolic acid solution, preferably the former, perfect asepsis may be obtained. Instead of the alcohol, ether, iodoform or turpentine may be used.

Drains may be of rubber, glass, horse-hair or gut. Bone drains are not safe, as there is some danger of infecting the wound. If certain as to their aseptic condition they may be used, as they are rapidly absorbed, and so require no removal. For draining cavities, particularly the abdominal, long glass drains should be used, reaching to the bottom of the cavity. By twisting a piece of bichloride or iodoform gauze into a rope and passing it to the bottom of the tube, the other end being lost in the dressing externally, we siphon, as it were, all liquids left behind, and exudates. These ropes may be changed, when necessary, without disturbing the tube. The effusion can also be removed by drawing it up with a small syringe, fitted with a piece of rubber tubing—this tubing is passed through the drain to the bottom of the cavity.

In an emergency case, common lamp-wicking, impregnated with iodoform, may be used as a drain, particularly when the secretions are small.

Drainage tubes should be removed within sixteen to twenty-four hours, unless contra-indicated, as their presence prevents primary union, and there is some danger of infection from them.

All aseptic effusions are absorbed spontaneously, and are often of use to the system; and aseptic clots usually become organized and transformed into a solid cicatrix.

During the operation the wound should be frequently douched with a 1-2000 or 1-3000 bichloride solution or a 1-50 carbolic acid, and the operator should now and then, particularly before inserting a finger or hand into the wound, dip his hand into the same solution.

After the sutures have been properly adjusted and cut, the incision should be dusted with iodoform or boracic acid, as much for their absorbent as for their antiseptic properties.

Bichloride or iodoform gauze should be used with profusion in dressing wounds, in order that the discharges may be perfectly absorbed and disinfected, and that ingress of air may be prevented.

In emergency cases, bismuth, freshly roasted, and ground coffee, finely pulverized; sawdust medicated with the bichloride or carbolic acid; filter or blotting-paper, soaked in a 2 p. c. solution of bichloride, may be used as dressings. Salol, salicylic acid and hydrate of chloral, 2 grs. to ʒ i, make excellent antiseptic fluids when nothing else can be obtained.

Turpentine, something always on hand, can be used as an antiseptic by soaking the dressings in it. It prevents the flow of serum and acts as an antiseptic in that way.

Varick's method of applying heat is good. After the operation apply heat in the form of cloths wrung out of boiling water to the wound surfaces. This coagulates the albumen and practically forms an impermeable dressing itself. The water must be boiling and close at hand, as merely hot water does no good. After the application the sutures may be adjusted as wished.

Peroxide of hydrogen in deep fissures is an excellent antiseptic, oxidizing pus upon contact.

Where union by first intention is desired, the dressing should not be removed until the seventh to the tenth day, unless special indications arise, when, if you have observed proper care, you may expect to find union and everything in a sweet, clean and aseptic condition. In many cases the first dressing is all that is required.

After operations upon cavities it is well to wash them out with either a 5 p. c. solution of common salt or clean, recently boiled water, to remove any excess of bichloride. In cases in which we have no antiseptics at hand, these will answer for douching, irrigation, etc.

Before making an examination the gynæcologist should cleanse his hands as though he was going into an operation. A carbolized vaseline or one of the following ointments are to be preferred as lubricants to lard or commercial vaseline:

Vaseline, 30 parts, boric acid, 4 parts; vaseline, 120 parts, biniodide of mercury, 1 part; vaseline, 30 parts, iodoform, finely pulverized, iodol, salol, or salicylic acid, 4 parts; vaseline, 30 parts, creosote, 1 part; olive oil, 100 parts, carbolic acid, 10 parts. Either of these make good antiseptic lubricants.

The vagina should always be wiped out previous to examination with a wad of cotton soaked in a carbolic acid solution, and before an operation should be irrigated with the same fluid.

After operation the vagina should be irrigated thoroughly and the wound surfaces dusted with iodoform; then an antiseptic tampon should be introduced to absorb the discharges, but should be removed early.

Boro-glyceride, 20 to 50 p. c., is an efficient antiseptic, and for use on tampons is to be preferred to anything.

In gonorrhœa in women, cleanse the vagina and vulva with a 1-10,000 bichloride solution, and then rub the mucous membrane with a pledget of cotton soaked in a 1-100 solution of the same. This is to remove the superficial layer of epithelium which contains the gonococcus. Dust the vagina and vulva with iodoform and pack the vagina with iodoform gauze. This gauze is to be removed every four or five days and the vagina irrigated with a 1-2000 bichloride solution and the gauze renewed. After the third or fourth removal the gauze is omitted and the vagina irrigated every day for two weeks with the bichloride solution. This must be thoroughly done to succeed.—*N. C. Med. Jour.*

INDICATIONS FOR, AND COMPARATIVE MERITS OF, EMMET'S AND SCHRŒDER'S OPERATION ON THE CERVIX UTERI.* By T. Johnson-Alloway, M.D., Instructor in Gynæcology, McGill University; Assistant Surgeon to the Montreal General Hospital; Gynæcologist to the Montreal Dispensary. Read before the Canadian Medical Association, at Ottawa, September, 1888.

Mr. President and Gentlemen—To Marion Sims uterine surgery owes its birth, and to the genius of such men as Emmet on this continent and Schrœder in Europe it is indebted for its advancement to a high position in surgery. And it does not therefore seem strange that the names and energies of these two latter gentlemen should be associated with a certain definite morbid condition of the cervix uteri in their respective methods devised for its relief.

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* Clay models of operations were exhibited.

There is not a procedure better known, or one on which there has been more written, than Emmet's trachelorrhaphy. Indeed it has, in the past, occupied so much attention in our local societies and medical journals, that at present the majority of us are feeling somewhat inclined to give it a little gentle rest. It is on this continent, however, that it has substantially flourished, but even here, Noeggeroth, after adopting it as part of a lifetime's work, tells us in his declining years of pensionhood that it is not at all necessary. But, gentlemen, we must not mind this strange and unnatural reversion of opinion under such circumstances; the present generation of uterine surgeons has experienced of late another example of such reversion of opinion under similar circumstances.

In England and France, the non-appreciation of Sims' speculum has conduced to perpetuate a feeling of conservatism which we look upon as being so inimical to the advancement of scientific uterine surgery, and which has accounted, in a measure, for the lukewarm acceptance of the benefits of trachelorrhaphy in these countries.

In Germany, however, Simons' perineal retractor has opened up to these original investigators a vast field of information in regard to operations upon the uterus.

And what Sims' instrument did in America towards making possible operations upon the uterus through the vagina, Simons' instrument led the way to similar work in Germany. To the respective merits of these two instruments, as perineal retractors, do we owe the recent advances made in uterine surgery towards the alleviation of much suffering otherwise inseparable from the function of reproduction.

I have introduced in a passing way the application of these two perineal retractors, because I think the advantages which Simons' instrument has over Sims' in operations upon the cervix should be considered. One of the principal advantages consists in the all-important fact, that with Simons' instrument we can render more easily the vagina purely aseptic before the operation has been begun, and carry it out under a continuous stream of sterilized water. When I first began to perform trachelorrhaphy it was not thought necessary to do anything further than clear away obstructing mucus, and even at present in some large centres, sterilizing of the passages is delegated to the hospital nurse, prior to the patient being placed on the operating table. Dr. Brooks H. Wells, of New York has shown by a carefully-prepared statistical table that in the practices of fifteen of the most eminent specialists in America, no less than 43 cases of pelvic inflammation and 6 deaths had occurred following the performance of so simple an operation as trachelorrhaphy, and surely so appalling a record should cause us to pause and enquire for a cause. Inflammation following operations upon the cervix are by some attributed to traction upon the pelvic floor, but this I look upon as a myth, and can accept but one real cause—*infection from without.* I do not believe there is ever sufficient traumatism produced in connection with operations upon the cervix to set up inflammatory action either in the wound itself or in the parametral tissue adjacent to it.

In considering the indications for an operation upon a lacerated and otherwise diseased cervix I will not take up time with the matter, the full digest of which we are all here acquainted; but I would like, sir, to lay before yourself and the gentlemen present the consideration of a few ideas which have originated during careful thought, in my endeavor to improve wherever experience prompted the necessity for such improvement. It is in this way only that we can obtain comparative evidence of sufficient value to enable us to draw logical conclusions. In regard to trachelorrhaphy for lacerated cervix, I found after I had done many cases that so long as I had to deal with a simple ununited cervical wound, free from arelor hyperplasia, displacement, chronic parametritus and perimetritus, chronic endometritus with cervical catarrhal patches, and other pathological conditions accompanying such a lesion, a simple trachelorrhaphy after Emmet's method produced the most promising results. And many of such simple cases were found to have been ladies who were told by their physican that they had a slight tear in the neck of the womb, and that if they took rest in bed, hot water douches and other palliative methods of treatment they would get better of their pains, and that eventually they could bear an operation done at some more convenient time. No better advice could possibly have been given, and no better course of treatment could have been carried out. In fact, all the good had been done by the patient's family physician, and the special surgeon found a patient, as a supplicant to him, to do a certain operation upon her cervix. Then, again, we meet with cases which are of recent origin, that is from six to twenty months after delivery, and where the principal symptoms are reflex neuralgiæ, extreme debility and hæmorrhagic endometritus. In these cases it is only necessary to readjust the torn edges of the cervix and enforce the necessary rest to favor more complete involution. These latter patients sometimes become neurasthenic, take on strange hallucinations, think they have heart disease, cancer, ovarian, or some obscure disease with which they say we are not familiar, and therefore, from which they can get no relief. Trachelorrhaphy sometimes acts like a charm upon the mental condition of such patients, but occasionally altogether fails, or even places them in a worse state. To repair the cervix here, however, is quite right, but the recovery of such a patient depended more upon a form of treatment outside of our present theme.

These few broad illustrations, gentlemen, of the more frequently met with cases wherein Emmet's method of simply restoring the cervix to its original form will partially serve our purpose in my endeavors to show the leading indications for that procedure.

We will now, gentlemen, pass on to consider another morbid condition of the cervix very often associated with laceration, wherein Emmet's operation does not succeed in giving relief. In this class of cases we have extensive catarrhal disease of the mucosa, with ectropion and general hyperplasia of the injured tissues. Schrœder claims that the catarrh does not depend upon the laceration, but the reverse —that the laceration is due to the catarrhal disease. I am inclined to think that Schrœder is, to a certain extent, undoubtedly right. Catarrhal disease must tend to destroy the integrity of the elastic properties of the cervix, and also to prevent union of the torn tissues during the puerperium. Again, how frequently do we meet with cases of most extensive catarrhal disease in women who have never been pregnant, and we sometimes see the catarrhal patch occupying the whole of the portio-vaginalis, extending as far back as the vaginal junction, So that, given a case of bilateral laceration, extensive ectropion. chronic catarrhal inflammation of the endometrium, formation of retention cysts, and connective tissue hypertrophy, I say that Emmet's trachelorrhaphy is incorrect and unsuitible, and will not give relief. The reason why the operation is unsuitable to such a case is very obvious, and can be explained in this way. We have an extensive catarrhal hypertrophy of the mucosa of the whole cervical canal, the cylindrical epithelium often being replaced by pavement, and there is extensive formation of retention cysts. Now this condition affects the central portion of the canal wall principally, and the mere paring of the torn edges and bringing them together with sutures will in no way cure the catarrhal disease of the central strip left on each cervical segment. And I have found that the tension is so great on the sutures that the lower ones invariably tear out and allow a certain degree of ectropion again to take place.

There are other interesting points in the pathology of cervical lacerations recently brought forward by Bandl. He found that in 130 post-mortems on women who had borne children, 76 showed well-marked inflammatory residues in the parametral surroundings of the cervix, and that these cases also bore evidence of cervical lacerations. It can also easily be understood that the constant endeavor on the part of nature to heal the injured part during the puerperium would tend to keep up a venous congestion, leading to increased growth of connective tissue; and in this way we get inflammatory remnants in the parametral tissue surrounding the cervix following laceration. These inflammatory remnants are also found affecting the peritoneum, causing displacements of the uterus of a most intractable kind to treat. In the case of a heavy, bulky uterus descending low down in the pelvis, and, when uncomplicated by inflammatory remnants, becomes retroverted by virtue of the long hypertrophied cervix being driven against the posterior wall of the vagina, and is reflected forward and downward, causing the fundus and body to be thrown backwards. In such cases I have found the truth of this mechanism of retro-displacements in the fact that after the removal of the cervix, the uterus did not become retroverted, and therefore did not require a pessary. I do not mean, however, that those aggravated cases of prolapse with a retroflexed uterus jammed low down in the well of the pelvis should be confounded with the cases in point—they require other additional methods of treatment. On considering all these facts, and the unsatisfactory results following Emmet's operation in certain such cases, it occurred to me that some procedure more radical in character must be done so that we may reduce the size of the uterus and cut off some of its abnormal blood supply. Towards this end, exsection of the whole of the diseased mucosa and sub-mucous tissue suggested itself to me in the form of what is known as Schrœder's operation. This operation consists in splitting up the cervix on each side to, or past, the vaginal junction, as circumstances may indicate. Then a transverse incision is made across the base of the flap, just below the internal os; this incision should go through the mucous membrane well into the fibrous wall of the cervix. With a long, sharp-pointed, straight bistoury the centre of the segment is transfixed from its point to the transverse incision at its base. The wedge-shaped piece thus lined out is removed and the flap remaining turned in over the stump by silkworm gut sutures. The same is done with the other segment of the cervix, and one suture is passed through the angles on each side. The wound is now dressed with absorbent cotton saturated with 1 to 40 carbolic acid in glycerine, and dusted with hydronaphthol. This dressing is allowed to remain *in situ* for six to eight days, when it will be found quite aseptic. The sutures are removed on the tenth day.

I may here, in passing, say that I always curette the walls of the uterus with the sharp instrument and use the steel dilators on the internal os, if necessary, to secure good drainage. I rarely use vaginal injections, as, if at the outset we make the vagina aseptic, and carry on the operation under sterilized hot water, we need have no fear of after decomposition of the fluids. I have now performed Schrœder's operation upon the cervix in 15 hospital and 22 private cases, and have not known a single rise of temperature or other untoward symptom follow the operation. The after results have been so gratifying, over and above what I had before received from Emmet's method, that I will continue to discriminate and perform it in all suitable cases.

COCA—ITS PREPARATION AND THEIR THERAPEUTICAL QUALITIES, WITH SOME REMARKS ON THE SO-CALLED COCAINE HABIT.*

By WILLIAM A. HAMMOND, M.D., Late Surgeon-General U. S. Army, Retired List; Professor of Diseases of the Mind and Nervous System in the New York Post-Graduate Medical School and Hospital, etc., etc., New York, N. Y.

It is not my intention to consume the time of the Society by entering into the clinical history of the erythroxylon coca or of the voluminous literature of which it and its active principle have been the subject; neither shall I devote much attention to the observations, interesting though they be, of other physicians and surgeons. I shall confine my remarks, therefore, almost entirely to an account of my own experience with these very important remedies. That experience based as it is upon the results obtained by the administrations of coca and its preparations to others, as well as those drawn from a large personal experience of coca and the hydrochlorate of cocaine, will I trust be of interest to the members of the Medical Society of Virginia.

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* Read before the Session of the Medical Society of Virginia.

I have employed three preparations of the coca leaves—the fluid extract, the wine, and the hydrochlorate of cocaine.

The first of these, *the fluid extract*, acts well in some cases when administered in the dose of one or two fluid drachms three times a day; but it is extremely disagreeable to the taste, is apt to excite nausea, and, moreover, being the extract of the leaves of the whole, contains substances that interfere materially with the action of the active principle of the drug. These are chiefly tannin and a resinous substance to which the nauseous taste is mainly due. It is rarely the case that the fluid extract is admissable with children, it having proved in my hands irritant to their delicate stomachs to such an extent as to cause vomiting shortly after being taken. It seems to be better tolerated in persons of advanced years, in whom perhaps these otherwise deleterious substances may be beneficial from their astringent and tonic qualities. These matters are, I think, in a great degree antagonistic to the action of the cocaine, and present insuperable objections to the employment of the fluid extract when we desire to obtain solely the action of the alkaloid.

The like objections are applicable to the various *wines of coca* as they are usually prepared. The Indians of Peru and Bolivia, it is true, make use of the coca leaves; but experience has taught them how to get the best results from their employment. They never chew them in their simple state, but make them into a mass with lime, and then subject them to the action of the saliva. By this process the alkaloid is in a measure separated, and is absorbed into the system while the woody fibre, tannin and extractive matter are ejected from the mouth. But all the wines of coca (and their number is legion) are preferable, so far as taste and effect are concerned, to the fluid extract; and for a considerable time I employed them in lieu of some better preparation as found in the market, and as made by various manufacturers. As the result of my experience, however, I found them to be generally uncertain, and often absolutely inert, except so far as regarded the wine entering into their composition, and this was often of the cheapest description. Analyses made by myself and others have shown that they vary greatly in the amount of cocaine which they contain, and that some of them are almost entirely free from this essential constituent; for a wine of coca without cocaine is like the play of Hamlet with the part of Hamlet left out. This deficiency is especially marked in a wine of coca of foreign manufacture which has had a large sale in this country, and which contains something less than half a grain of cocaine to the pint bottle.

Disappointed in the result of my administration of these wines of coca, and recognizing the fact that wine is the best menstrum through which the active principle can be given. I represented to a gentleman connected with the Health Restorative Co. of New York the expediency of preparing a wine of coca that should contain a fixed proportion of cocaine, and at the same time be free from the tannin, resin, and other inert or deleterious substances present in the leaves. I also insisted upon the point that the wine used in its manufacture should be full-bodied and absolutely pure. In a short time they submitted to me a wine of coca containing two grains of the hydrochlorate of cocaine to the pint, and absolutely free from tannin and resinous matter. This preparation leaves nothing to be desired; the wine used in its manufacture is the juice of the grape uncontaminated by foreign substances. The taste would be pronounced pleasant by everybody, and the proportion of cocaine is large enough to give a medium dose, about the sixth of a grain, to each wineglassful.

This wine of coca I have found beneficial in all cases of *spinal irritation*, and especially so in those in which there is that distressing irritability of the stomach that is so frequently one of the phenomena of the disease. As you all know, it is not unusual to meet with instances of this disorder in which there is vomiting with or without nausea the instant food of any description is taken into the stomach. In such cases the wine may be given in teaspoonful doses, repeated every five minutes until eight or ten doses are taken. The first portion may be rejected almost as soon as it is followed, but the second will be retained longer, and the third longer still, and the fourth will probably not be thrown up at all. After tolerance is thus established the wine may be given in larger quantities, say a wineglassful just before eating, with the effect in most cases of producing entire relief of the gastric irritation. It may then be continued, so long as may be necessary, as a medicinal agent of great value in curing the spinal irritation and acting as a tonic to the system. Indeed, not only in cases of spinal irritation is the wine of coca beneficial, but in all instances in which it is desirable to increase the vital powers, coca appears to be, as has been heretofore observed, the one agent that can be thus employed without fear of the depression that so generally follows the use of other stimulants.

I made some use of this wine of coca as a special *tonic to the vocal apparatus*, and I am quite sure that it possessed great value in which fatigue follows the excessive use of the voice, or in which the voice breaks down in the midst of some supreme effort. Where such fatigue or failure is to be feared a full claret glass of the wine taken just before beginning to speak or sing will almost invariably accomplish the object in view. Several of my patients—lawyers, clergymen, actors and other public speakers—have, after taking it according to my directions, avoided the unpleasant consequences which had previously followed their efforts. A lady, an opera singer, not however a patient of mine, but under the care of a brother physician, was apprehensive that she should have to give up her profession in consequence of a notable failure of her voice after an hours' work. There did not appear to be in her case any disease of the larynx other than a functional paralysis of the vocal cords, probably of hysterical origin. However that may be, a wineglassful of the wine of coca, taken after she had been singing a few minutes, effectually prevented the catastrophe, and in a few weeks entirely cured her so that she was able to do without the agent.

But I have made more use of this wine of coca in cases of *cerebral hyperæmia* than in any other affection. This disorder is generally the result of excessive mental exertion or of intense emotional disturbance. Nothing can be more beneficial in its action than is this remedy; dispensing with all other stimulants, I advise the patient to take a claret wine-glassful of wine with each meal. The influence is felt almost immediately; the vital powers seem to be at once restored, and the mind soon regains its former vigor. If the sleep has been disturbed or absent it becomes regular and in sufficient quantity after the remedy has been taken for a few days. These cases, passing as they do under the names of nervous prostration and neurasthenia, general debility, etc., are those in which the influence of the wine of coca is most distinctly shown.

In another form of mental depression which is not infrequently an accompaniment of hysteria in the female, or of a like condition in the male, and in which there is usually some disorder of the generative system, this wine of coca is invaluable, and may be often relied upon to effect a cure without the administration of any other medicinal agent. Under its use the emotions become more expansive, the disposition to droop over imaginary, or at least very slight troubles, disappear. Tears are no longer shed over mere nothings; the countenance loses its expression of utter hopelessness and thus an important step toward a successful therapeutical result is at once obtained. In such cases I give the wine continuously for several months. I have never had any difficulty in causing the patient to stop its use.

It is impossible in a paper like the present to enter upon the consideration of, or even to mention the many morbid states of the nervous system in which I have found this wine of coca beneficial. They will suggest themselves to all of you without further reference on my part. I will only say, that my experience has in general been that of many other physicians who have used it, and have made known the results which they have obtained, and which are sufficient to establish the fact of the great value of the wine of coca as a tonic and stimulant to the weakened or exhausted nervous system. There are many diseases, such as fevers, dysentery, heart and lung affections, and especially in malarious disorders, in which I have had no personal experience of its action, but, in which physicians of eminence, who have used it in cases of such diseases, speak of it in the highest terms. That it is not followed by the depression of mind and body that so generally ensue upon the use of other excitants is certainly very remarkable, but it nevertheless is a circumstance that seems to admit of no doubt.

What is true of the wine of coca is true, though in a more marked degree, of its active principle, the *hydrochlorate of cocaine*, and which even for internal administration should often be preferred. In regard to this substance my experience has also led me to very definite conclusions. The hydrochlorate of cocaine is best known as a local anæsthetic in operations about the eye, nasal cavities, etc. But it is likewise an inestimable remedy in certain affections of the nervous system in which a speedy and decided result is desired.

About two years ago I undertook a series of experiments with this agent on myself, with the object of obtaining more satisfactory information relative to its action than it seemed possible for me to get otherwise. I began by injecting a grain of the substance under the skin of the forearm, the operation being performed at 8 o'clock, P. M.

The first effect ensued in about five minutes, and consisted of a pleasant thrill which seemed to pass through my whole body. This lasted about ten minutes and shortly after its appearance was accompanied by a sensation of fullness in the head and heat of the face. There was also noticed a decided acceleration of the pulse with increase of force. This latter symptom was probably, judging from subsequent experiments, the very first to ensue, but my attention being otherwise engaged it was overlooked. On feeling the pulse five minutes after making the injection, it was found to be 94 while immediately before the operation it was only 82.

With these physical phenomena there was a sense of exhilaration and an increase of mental activity that were well marked and not unlike in character those that ordinarily follow a glass or two of champagne. I was writing at the time, and I found that my thoughts flowed with increased freedom, and were unusually well expressed. The influence was well felt for two hours, when it gradually began to fade. At 12 o'clock, four hours after the injection, I went to bed, feeling, however, no disposition to sleep. I lay awake till daylight, my mind actively going over all the events of the previous day. When I at last fell asleep it was only for two or three hours, and then I awoke with a severe frontal headache. This passed off after breakfast.

On the second night following, at 7 o'clock, I injected two grains of the hydrochlorate of cocaine into the skin of the forearm. At that time the pulse was 84 full and soft. In four minutes and a half it had increased to 92, was decidely stronger than before and somewhat irregular in rhythm. The peculiar thrill previously mentioned was again experienced. All the phenomena attendant on the first experiment were present in this, and to an increased degree. In addition there were twitching of the muscles of the face, and a slight tremor of the hands noticed especially in writing. In regard to the mental manifestations there was a similar exhilaration as in the last experiment, but much more intense in character. I felt a great desire to write, and did so with a freedom and apparent clearness that astonished me. I was quite sure, however, at the time, that on the following morning, when I came to read it over, I would find my lucubrations to be of no value; I was therefore agreeably disappointed when I came to peruse it, after the effects of the drug had passed off, that it was entirely coherent, logical, and as good, if not better in general character, as anything I had previously written.

The effects of this dose did not disappear till the middle of the next day, nor until I had drank two or three cups of strong coffee. I slept little or none at all, the night being passed in tossing from side to side of the bed, and in thinking of the most preposterous subjects. I was, however, at no time unconscious, but it seemed as though my mind was to some extent preverted from its usual course of action. The heat of the head was greatest at about 12 o'clock, and at that time my pulse was 112, the highest point reached. I had no headache until after rising, and the pain disappeared in the course of the morning.

Four nights subsequently I injected four grains of the hydrochlorate of cocaine into the skin of the left forearm. The effects were similar in almost every respect with those of the other experiments except that they were much more intense. The mental activity was exceedingly great, and in writing, my thoughts as before appeared to be lucidly and logically expressed. I wrote page after page, throwing the sheets on the floor without stopping to gather them together. When, however, I came to look them over the following morning, I found that I had written a series of high flown sentences altogether different from my usual style, and bearing upon matters in which I was not the least interested. The result was very striking as showing the difference between a large and excessive dose of the drug, and yet it appeared to me at the time that what I was writing consisted of ideas of very superior character and expressed with a beauty of diction of which I was, in my normal condition, altogether incapable.

The disturbance of the action of the heart was also exceedingly well marked, and may be described best by the word "tumultuous." At times, beginning within three minutes after the injection, and continuing with more or less intensity all through the night, the heart beat so rapidly that its pulsations could not be counted, and then its action would suddenly fall to a rate not exceeding 60 in a minute, every now and then dropping a beat. This irregularity was accompanied by a disturbance of respiration of a similar character, and by a sense of oppression in the chest that added greatly to my discomfort.

On subsequent nights I took 6, 8, 10 and 12 grains of the cocaine at a dose, but I will not detain the society with a detailed account of the effects produced. It will be sufficient to say that they were similar in general characteristics, though of gradual increasing intensity in accordance with the dose taken to that in which four grains were injected. In all there was great mental excitement, increased fluency of thought, and exaggerated disposition to write, the matter written being disconnected and at times almost incoherent, though it appeared to me at the moment to be wonderfully logical and profound. In one, that in which 12 grains were taken, I was conscious of a tendency to talk, and, as far as my recollection extends, I believe I did make a long speech on some subject of which I had no remembrance the next day. In all, the action of the heart was increased, was irregular in rhythm and force to such an extent that I was apprehensive of serious results. Insomnia was a marked characteristic, and there was invariably a headache the following morning. In all cases, however, the effects passed off about midday, and by evening I was as well as ever.

Up to this time I certainly had not taken a poisonous dose of cocaine, or one that had produced any serious inconvenience. My experience had satisfied me that a much larger dose than any I had up to that time injected might, in my case at least, be taken with impunity. A consideration of the phenomena observed appeared to show that the effects produced by 12 grains were not very much more pronounced than those following 6 grains. I determined, therefore to make one more experiment, and to inject 18 grains. I knew that in a case of attempted suicide 23 grains had been taken into the stomach without seemingly injurious effect, and that in another case 32 grains were taken within the space of three hours without symptoms following of greater intensity than those I had experienced.

I had taken the doses of 8, 10 and 12 grains in divided quantities, and this dose of 18 grains I took in four portions within five minutes of each other. At once an effect was produced upon the heart, and before I had taken the last injection the pulsations were 140 to the minute and characteristically irregular. In all the former experiments, although there was great mental exaltation, amounting at times almost to delirium, it was nevertheless distinctly under my control, and I am sure that at any time under the influence of a sufficiently powerful incentive I could have obtained entire mastery over myself, and have acted after my normal manner. But in this instance, within five minutes after taking the last injection, I felt that my mind was passing beyond my control, and that I was becoming an irresponsible agent. I did not feel exactly in a reckless mood, but I was in such a frame of mind as to be utterly regardless of any calamity or danger that might be impending over me. I do not think I was in a particularly combative condition, but I was elated and possessed of a feeling as though exempt from the operation of deleterious influences. I do not know how long this state of mind continued, for I lost consciousness of all my acts within, I think, half an hour after finishing the administration of the dose. Probably, however, other moods supervened, for the next day when I came down stairs, three hours after my usual time, I found the floor of my library strewn with encyclopædias, dictionaries, and other books of reference, and one or two chairs overturned. I certainly was possessed of the power of mental and physical action in accordance with the ideas by which I was governed, for I had turned out the gas in the room and gone up-stairs to my bed-chamber and lighted the gas, and put the match used in a safe place, and undressed, laying my clothes in their usual place, had cleaned my teeth and gone to bed. Doubtless these acts were all automatic, for I had done them all in pretty much the same way for a number of years. During the night the condition which existed was, judging from the previous experiments, certainly not sleep, and yet I remained entirely unconscious until 9 o'clock the following morning, when I found myself in bed with a splitting headache and a good deal of cardiac aud respiratory disturbance. For several days afterwards I felt the effects of this extreme dose in a certain degree of languor and indisposition to mental or physical exertion; there was also a difficulty in concentrating the attention, but I slept soundly every night without any notable disturbance from dreams.

Certainly in this instance I came very near taking a fatal dose, and I would not advise anybody to repeat the experiment. I suppose that if I had taken the whole quantity in one single injection instead of in four, over a period of twenty minutes, the result might have been disastrous. Eighteen grains of cocaine are equivalent to about 3,600 grains of coca leaves, and of course, owing to its concentration, capable of acting with very much greater intensity.

I am not aware that a fatal dose of cocaine has yet been indicated by actual fact. Probably 18 grains would kill some people, and perhaps even smaller quantities might, with certain individuals, be fatal. But these are inferences and not facts; but so far as I know, there is not an instance on record of a person dying from the administration of cocaine. So far as my experiments extend (and I think it will be admitted that they have gone as far as is safe) I am inclined to think that a dose sufficient to produce death would do so by action on the heart. Certainly it was there that in my case the most dangerous symptoms were perceived. The rapidity, force and marked irregularity of the pulse all showed that the innervation of the heart was seriously affected.

It is surprising that no marked influence appeared to be exercised upon the spinal cord or upon the ganglia at the base of the brain. Thus, there were no disturbances of sensibility (no anæsthesia, no hyperæsthesia) and no interference with motility, except that some of the muscles, especially those of the face, were subject to slight twitchings. In regard to sight and hearing, I noticed that both were affected, but that while the sharpness of vision was decidedly lessened, the hearing was increased in acuteness. At no time were there any hallucinations.

Acting from the data thus obtained, I have used the hydrochlorate of cocaine to a considerable extent in my practice, but always by hypodermic injections when employing it in its pure state. For internal administration, I have, as already mentioned, used the wine in preference; but recognizing the power of the substance when locally applied to mucous membranes to diminish the calibre of the blood vessels of the part and to produce anæsthesia I should use it in certain affections of the stomach upon the same principle as it is at present applied to the nasal mucous membrane, the pharynx and the larynx, should cases requiring its employment come under my observation.

I have derived great benefit from its administration hypodermically in cases of *melancholia*, and in others of *hysteria* characterized by great depression of spirits. In such case a half grain may be injected under the skin, and if necessary the quantity gradually increased to two grains. I have never given more than this quantity to a patient at one time, but I have frequently reached this point without having yet witnessed any deleterious effects. One injection given daily for three or four days will often make the most dismal melancholic cheerful, and what is remarkable is the fact that the improvement is permanent. In the case of a woman strongly hysterical, and who had not spoken a word for several months, a single injection of a grain (a rather large dose to begin with, but one which I thought proper under the circumstances), broke the spell in less than five minutes, and there has up to this date—and nearly a year has elapsed—been no return of any hysterical symptom.

I have used it also with entirely satisfactory results in two cases of *neuritis*, in both instances affecting the radial nerve, and attended with great pain, partial paralysis of the muscles supplied by the nerve, and numbness of the thumb, index and outer half of the middle finger. The injection was made at the point over the nerve where the greatest pain was experienced, and the point of the syringe carried deep so as to come as near as possible to the nerve. Half a grain of the drug was injected every two hours until in the one case eight, and in the other ten injections were made. From the first introduction of the drug the symptoms began to subside, and after the last injection was made there was no return. I have not yet had an opportunity of using it in sciatica, a disease extremely likely to be benefitted by its use. In such a case I should make the injection at the upper part of the sciatic nerve, and should endeavor to throw it into the substance of the nerve itself.

Undoubtedly there are other cases of *neuralgia* in which the hydrochlorate of cocaine could be used with advantage, but they would have to be those in which it could be placed very near to the inflamed part of the nerve, for of course it is only by its local action that it could have any effect in these diseases.

I do not speak here of its use in connection with certain *affections of the eye*, such as conjunctivitis, granular lids, etc.; nor of its employment in *rhinology or in laryngology*, though I shall in a few minutes have a few words to say with reference to its application to the nasal mucous membrane.

We have heard a good deal of the *cocaine habit*, a habit which I am very sure has *no existence* as such. I do not deny that there are morphia-eaters who, having heard that cocaine is an antidote to the morphia habit, have endeavored to cure themselves with it, and being deprived of full power of judgment and of will, have ingrafted the cocaine on the morphia habit, producing thereby an exceedingly bad combination. But that there is any such thing as cocaine habit pure and simple which the individual cannot of his own effort altogether arrest, I emphatically deny. The injection of half a grain to a grain produces a certain degree of mental exhilaration which is pleasurable, and which attains upon a repetition of the dose; but there is no weakening of the will power, such as is produced by morphia, and no craving for the drug such as opium and its preparations cause. I have given it to many patients, male and female, for several weeks continuously, and have never had a single one object to its adminstration being stopped. There is not so much trouble in ceasing its use as there is in giving up tea, or coffee, and nothing like so much as is experienced by those who cease using alcohol or tobacco. Within a space of a few months, Dr. Bosworth, of New York, took, I think, between 500 and 600 grains, and stopped without any inconvenience.

A very interesting paper on "Cocaine and its Fascinations, from personal Experience," was published in the *Medical Record*, by Dr. Frank W. Ring. Dr. Ring made use of a solution of hydrochlorate of cocaine nightly for ten months in the form of 4 per cent. solution applied to the nasal mucous membrane by means of an atomizer. About two grains were used at each application. The account of his experience is exceedingly interesting, but I shall not touch upon that portion of his paper at present. I will, however, quote from him this paragraph premising that during the ten months he had taken more than 600 grains:

"July 9th, I came to the conclusion that the medicine was getting to be a necessity; that it might become a source of injury to my well-being, and I calmly decided to stop it, which I did. The inclination for it often seizes me, but I crush it with the perfect confidence that I shall never again indulge in its enchantments."

And now I come to another stage of my personal experience, which I think is both interesting and instructive. About the first of March last I was attacked by a *violent rhinitis*, different in character and of far greater intensity than any rhinologist I have consulted has ever witnessed, and of a form not laid down in the books. There was great swelling of the nose and face, the discharge during the first stage of an exceedingly acrid and thin fluid, and the formation subsequently of a membraniform substance not very unlike that present in diphtheria, but very loosely attached to the membrane, and showing no disposition to extend beyond the nasal cavities. Nothing gave me such relief as the application of a solution of the hydrochlorate of cocaine by means of cotton-holders, camel's hair pencils and atomizers. Generally I used a 4 per cent. solution, but not infrequently one of 10 per cent., and occasionally one of 20 per cent. I used it night and day almost continuously during the months of March, April, May, June, and to the middle of July. From the 16th of July to the 24th of August I was absent from New York at Mackinac, Michigan. During that period I had no rhinitis, and I took no cocaine. From the first of March to the 16th of July I applied an average of 20 grains a day to the nasal mucous membranes. Of course nothing like this quantity entered the system, but I was careful enough to carry it far enough back till I tasted it in the throat, when it was generally swallowed. I used, therefore, about 600 grains a month. The effects of it upon the system besides its local influence were a slight mental exhilaration, and sometimes an indisposition to sleep when I had taken more than my usual quantity. I was not confined to bed a single day, nor did I fail any day to discharge all my professional duties. I missed four lectures at the Medical College, but that was not from any effect of the cocaine, but solely from the nature of the disease with which I was affected, and which prevented me from speaking clearly.

On the 16th of July I stopped the use of cocaine without the slightest difficulty, nor did I resume it again for six weeks.

But two days after my return, August 26, I had another of my old attacks, and I again began the use of cocaine. From that date to October 1st I have used nearly 800 grains in application to the nasal mucous membrane. On the first of October I ceased taking it, and again without the slightest difficulty. On neither occasion of my stopping its administration did I experience the slightest craving for it or inconvenience.

So far as I know, I shall not take it again unless I should be the subject of another attack of rhinitis, when I shall certainly resort to it as the one agent, capable of affording relief to an inflamed, painful, turgid, and altogether uncomfortable nasal mucous membrane.

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ABSTRACTS.

Pelvic Peritonitis.—In the *American Journal of Obstetrics*, September, 1888, Dr. Joseph Eastman states that from his experience in the past year he feels warranted in emphasizing the importance of pelvic peritonitis—a disease often overlooked, yet the most common disease of the female pelvis. According to the text-books, pelvic cellulitis more frequently follows labor than pelvic peritonitis. Post-mortem examinations, and, within the past few years, abdominal sections, are demonstrating that without some pre-existing peritonitis, the trauma of child-birth, and other causes heretofore related would less frequently result in cellulitis. He refers to the autopsies (for all diseases) made by Winckel—well-marked pelvic peritonitis was found in one-third of the cases. The same authority found pronounced disease of the Fallopian tubes in 182 cases, out of a total of 575, which were examined *post-mortem*. These instructive statements should lead to the early medical treatment of salpingitis, which so frequently causes inflammation of structures contiguous to the tubes owing to their movements and periodical engorgement.

The sharp stitch-like pains felt by young women before, during and after menstruation are, as in the chest, significant of more or less inflammatory adhesion of some portions of the serous covering of the pelvic structure. The term pelvic peritonitis may be applied to a circumscribed spot of inflammation, or signify co-existence of perimetritis, perisalpingitis, perioöphoritis, pericystitis, and periproctitis. The delicate silky membrane at first becomes opaque, then adheres to the fold of peritoneum nearest in contact. Thus the uterus, rectum, tubes and bladder may become adherent one to the other, or all together; and each recurring attack of inflammation strengthens the adhesions. The serum poured out may become purulent, forming abscesses in the broad ligament, or between coils of intestines; these seriously impair various functions, sometimes causing intestinal obstruction. Should they discharge into the bowel or bladder the ultimate cure is seriously complicated.

Congenital defects in the sexual organs may favor the development of peritonitis. The brain-cramming of our school systems is also a predisposing cause, since it interferes with the normal development of the pelvic organs in young girls. Allusion is made to the observation of Tait that disease of the tubes is at times due to the exanthemata, which probably act by causing catarrh of the tubes, or by interfering with the proper development of the epithelial lining of these organs. Dr. Eastman has removed diseased tubes from several cases in which the history clearly showed that scarlet fever was the cause of the disease. While gonorrhœa is admitted to be a frequent cause of pelvic peritonitis, the extreme views of Noeggerath and Saenger are not accepted. Still there is reason to shudder at the fate of marriageable young ladies when it is remembered that a large percentage of marriageable young men have suffered from gonorrhœa, and have been imperfectly cured, or rather not cured at all. The teaching, heretofore extant, that gonorrhœa in the female is less serious than in the male is wrong, *and must be rewritten*. The statement of Van Buren and Keyes that "gonorrhœa sends more to the tomb than syphilis" is quoted with commendation, and it is added that the same foul virus sends twice as many women to the grave as men. While serious lesions in the urethra (resulting from gonorrhœa) are less common in the female than in the male, the Fallopian tubes and ovaries furnish a secret lurking-place for the gonorrhœal virus, where its work of destruction is beyond the reach of remedial agents. Means used to prevent conception, especially cold water injections used after coition, cause many cases of tubal and ovarian inflammation. Induced abortion is a prolific cause of peritonitis from which many deaths result.

The treatment given refers more particularly to advanced stages of the disease, in which operative treatment alone offers a prospect of benefit or cure. Opium is still accorded the first place in the treatment of acute peritonitis; but we are warned against its use in chronic cases, lest the "opium habit" be induced. Hot applications to the hypogastrium, combined with hot antiseptic vaginal douches, given with the Hildebrandt douche (which instrument allows the use of water ten or fifteen degrees hotter than can be borne by the external parts) are also regarded with favor.

In case that each recurring menstrual period rekindles the inflammation, removal of the uterine appendages, to relieve the pelvis of its periodical congestion, is undoubtedly a warrantable operation if all other methods of treatment have failed. [Are not the appendages removed as the *fons et origo mali* rather than to bring on the menopause, and when peritonitis is caused by pyo-salpinx is it not warrantable to remove the appendages before employing all other methods of treatment?—Ed.] In answer to the claim that the uterine appendages are being removed without sufficient cause, Eastman states that from his limited experience he believes that for every case in which these structures have been removed unnecessarily, ten women have gone to the grave whose lives could have been saved by timely removal of the appendages by skillful hands.

The attention of those who condemn salpingo oöphorectomy is called to the following propositions, and they are requested to use anatomical, physiological, pathological, and therapeutical common sense in the consideration. Could the ovaries and Fallopian tubes, like the testicle and epididymis, descend during early life and remain within reach of poultices, iodine, surpensory bandages, etc., and if they could remain free from monthly engorgement, they also might be relieved of congenital defects, physiological abuses, the destructive sequelæ of mumps, the fevers of childhood, and the pernicious gonorrhœa virus, before disorganization had so far advanced as to necessitate their removal. After suppuration has occurred, whether the pus is discharging by the rectum, vagina or not, the treatment instituted by Tait—to open the abdomen, drain the abscess from its fountain source (whether in the broad ligament or between coils of intestines) by stitching the peritoneal margins of the abscess to the abdominal wound and using the drainage tube—is considered the safest and most satisfactory method of treatment. It is preferred to opening the abscess *per vaginam* with the trocar or bistoury; also to enlarging sinuses communicating with the vagina and rectum when such exist. Martin's method of drainage through Douglas's pouch may be more suitable in some cases.

The Treatment of Typhoid Fever.—Ziemssen (*ibid.*) attributes the lowered mortality of typhoid fever within the past few years to improved therapeutics. A few only of the more important features of his very extensive and scientific paper can be here given. The patient's room should be capacious, quiet, and well ventilated. Water-pillows should be used, and, when possible, a second bed. The author is in favor of easily digested albuminates during the fever. Beef-juice extracted from fresh beef is the most suitable, and of this the patient should have 150 to 200 grammes (5 to 6½ oz.) in twenty-four hours. Regarding other forms of nutriment, the author follows the prevailing methods. Gelatin is often given in form of calves'-foot jelly with wine. The author gives but few medicines, and these only when specially indicated. Calomel, he thinks, has a decidedly beneficial effect when given at the right time—that is, within the first five days of the illness. He gives grs. vijss. three times within two hours. Strong emphasis is laid upon his method, which is so well known, of rêducing the temperature by graduated cold baths. He speaks warmly of antipyrine as an antipyretic, of which he adminsters 5 grammes (grs. lxxv), in three divided, hourly doses, beginning the adminstration after 6 P. M. Thalline and acetanilide receive praise from him, but he condemns quinine, because it is attended with untoward effects—such as noises in the ears and an indescribable sensation all over the body. Karin and salicylate of sodium as antipyretics he considers antiquated. In slight cerebral symptoms an ice-bag should be applied to the head, but not continuously; in severe cerebral symptoms, graduated baths, with cold affusions, are indispensable. Insomnia and restlessness are best combated by an injection of morphine. A tendency to cardiac weakness is best met by excitants, the best of which are camphor and wine, champagne and brandy. Severe diarrhœa is best treated with starch and opium enemata. Intestinal hæmorrhages call for ice-bags on the abdomen, and subsequently for ice-water enemata, which act reflexly. The intestinal hæmorrhages, which occur between the fourth and sixth weeks, offer a much worse prognosis than those that occur during the second and third weeks. Bed-sores can be avoided by care, cleanliness, cold-water treatment, and a water-pillow.

During convalescence great care must be exercised regarding the diet. For five days, at least, after the non-febrile period has set in the diet should continue to be of a liquid nature. After this it may be given in a semi-solid form for a few days, and then solid food may be cautiously given. The patient should keep in his bed for fourteen days, even after a mild attack, and for three or four weeks after a severe one.

ON THE EFFECTS OF ACIDS (HYDROCHLORIC, LACTIC, ACETIC, AND CARBONIC) ON THE FUNCTIONS OF THE STOMACH, AND THEIR THERAPEUTIC APPLICATION.—W. Jaworski ("Ctrlbl. f. klin. Med.," 1888, No. 10) draws the following conclusions, after extensive experiments with acids on the gastric function:

1. The acids throw down a considerable precipitate of mucous.
2. They (especially hydrochloric acid) increase the cellular elements of the gastric contents.
3. Their introduction is followed by intense butyric reaction, most marked after hydrochloric acid.
4. Larger quantities of the acids produce a considerable effusion of bile into the stomach.
5. They stimulate, very actively, the secretion of pepsin, but have no more influence upon the secertion of hydrochloric acid than so much distilled water would have.
6. Their long-continued administration is followed by marked diminution of the secretion of hydrochloric acid.
7. Even in large quantities hydrochloric acid produces no gastric

disturbances. On the contrary, a continued administration of the acid is attended with a feeling of well-being.

8. The difference in the effect between acids and the alkaline salts on the gastric functions consists in the fact that the alkaline salts dissolve the mucus and decrease the secretion of pepsin, while the acids precipitate the mucus and increase the secretion of pepsin. The disappearance of the alkaline salts from the stomach is followed by a decided increase of the hydrochloric-acid solution. This does not occur, or only to a slight degree, in the case of acids. Both the acids and salts, in large quantities in continued use, have the same effect in lowering the activity, and finally in destroying the functions of the glands secreting hydrochloric acid.

Experiments with the introduction of carbonic acid into the stomach, either in gaseous form or dissolved in water, show that this acid has the property of stimulating the peptic and acid functions of the stomach, and in that way increases its digestive power.

AMERICAN WATER-SUPPLIES.—The American Public Health Association have issued a report of a committee appointed to inquire into the pollution of water-supplies, which evidently has for its object to draw public attention to the need which exists for supplying the cities and towns of the United States with water that shall be free from the risk of pollution. Enteric fever, it is stated, is present in all the cities, giving annual death-rates of from 15 to 100 and more in every 100,000 of the population. Local outbreaks, it is explained, are without hesitation ascribed to well water which has received sewage soakage, but when public supplies are concerned the sources of which are also subject to sewage pollution, it is considered that objection to the use of such water is merely sentimental, and people hesitate to attach the danger of specific contamination to such supplies which they readily assign to polluted well water. And yet the United States exhibit instances which show, in a striking way, that their enteric fever death-rates have been proportioned to the extent to which their water-supplies are polluted by sewage. Where, as in Brooklyn, the water-supply is free from risk of sewage pollution the death-rate is small; whereas in Philadelphia, in which city less attention is given to maintaining purity of water sources, the reverse is the case, and the enteric fever death rate is correspondingly high. As indicating the importance of an unpolluted water service, attention is drawn to the fact that during the period 1851-74 the enteric fever death-rate of Vienna ranged from 100 to 340 per 100,000 annually; in 1874 spring water was introduced instead of that from polluted wells, and the rate at once fell to 50. With the extension of the new service it has since gone down to 11, and enteric fever in hospitals is stated to be becoming so rare that cases are regarded as of unusual interest when admitted. But even when public supplies are introduced in American cities filtration seems an unusual process, storage in tanks to secure greater clearness of water being mainly relied on. As to this, the Association point out that although after a week's storage water becomes clear from deposit of organic and inorganic matters, yet the bacterial colonies found in the stored water greatly exceed in number those which existed in the water when first impounded in its turbid state; and with reference to any influence of such storage on specific infection, it is stated that an infected water-supply, which prostrated 1200 to 1800 and killed 130 of the inhabitants of Plymouth, Pa., had passed through three storage reservoirs before accomplishing its deadly mission. But it must be remembered that filtration has also failed in a similar way to get rid of specific infection, both where natural and artificial filtration has been in operation; and the Association therefore urge that nothing short of supplies from pure sources, and well protected against sewage contamination along the line of delivery, should be contemplated. And comparison of the expense involved in the death of no less than 30,000 enteric fever patients annually in the United States of America, together with the enormous number of non-fatal attacks, with that of securing a wholesome water-supply that shall be available both for the present and a future generation, leads the reporters to assert that economy would lie on the side of the wholesome water services. Hence State boards are urged to take a livelier interest in this important subject; and to State legislatures it is pointed out that advantages would accrue to the public were they to lend financial aid in carrying out works for the procuring and preserving of water-supplies free from risk of sewage contamination.

DANGER FROM POPULAR PRESCRIBING.—The self prescriber has already heard of sulphonal, and is taking it in the maximum dose in order to produce sleep. He is also recommending it to his friends who can not sleep, in doses which are not free from danger. The popular use of antipyrin, which has been going on for over a year, has done no little injury; we have known thirty grains to be advised by one layman to another as an initial dose. We predict that the time must come, through the multiplication of these potent neurotic medicines, when physicians will insist upon the non-renewal of these potent prescriptions by pharmacists without a written order. It seems to us quite probable that we have simply arrived at the threshold of this department of chemical work, and that the profession will be compelled to throw additional safeguards around the unauthorized use of these powerful agents.—*Medical News.*

(Comment on the above which comes to us from Louisville.)

[For this state of affairs the profession, and it alone, is to blame. All new powerful drugs should be dispensed by the physician himself, the effects carefully watched, and no hint given the patient of their names or nature.—*American Practitioner & News.*]

Some of these potent drugs are in the hands of our druggist as soon as they are known to the physician. The first opportunity to inspect the physical properties of sulphonal which this writer had was afforded him at a busy pharmacy near by. This being so, the profession is not the solely responsible agent in the matter of popular prescribing, at least so far as concerns the seaboard cities. If Louisville manages to keep these neurotic medicines within the control of her medical men, so much the better for Louisville. But we think the solution of the difficulty comes not so readily as the editor of the *Practitioner* avers.

OBSTETRICAL GYNÆCOLOGY (E. S. McKee, M.D., Cincinnati). Peritoneal irritation was the subject of a report by Polaillon at the Paris Obstetrical and Gynæcological Society (*Bulletins et Memoirs de la Societié*). The patient died on the table after the operation of ovariotomy, there having been free hæmorrhage from a severed omentum and pelvic adhesions; the peritoneum was irrigated with about three pints of a one per cent. solution of carbolic acid in boiled distilled water of a temperature of 98.6 F. After the injection the breathing became suddenly accelerated, then feeble, then ceased; the face becoming violet-colored but the heart beat regularly. The most heroic efforts were made to save the patient. These consisted in artificial respiration, tracheotomy, oxygen by inhalation, applications of the actual cautery to the thorax, frictions, hypodermic injections of ether, electrizations of the diaphragm and an attempt to let blood from the arm, all of which proved futile. Polaillon referred to other instances in which the irrigation of the peritoneum caused such an embarassment of the respiration that great difficulty was experienced in resuscitating the patient. He suggested that such results were caused by the action of hot water upon the solar plexus, and recommends as a precaution that the head and shoulders of the patient be slightly elevated so that the water will remain in the lower part of the abdomen and away from the diaphragm, and to never use water above 37° centegrades. Guerin had an experience like unto that of Polaillon to which he alluded. Others were of the opinion that the patient died rather from the effects of poisoning from the carbolic acid than from the reflex inhibation of respiration.

Boiled water as an antiseptic is well discussed in the *Gazette de Gynecologie*. The accidents occasioned by corrosive sublimate, carbolic acid and even by iodoform, are so frequent and so well known that we will only too gladly put them aside for something which is not so dangerous. In place of these this journal urges upon surgeons the use of simple warm water, which after filtration and heating to 100° F. or better 120° is one of the best antiseptics at our disposition. Solutions of morphia, made for hypodermic use after the old method with distilled water, are filled with micro-organisms and microbes, at the end of five to ten days of use they are preserved perfectly pure during weeks, or even months, if the water be filtered and boiled.

Double vagina and three legs is the interesting case detailed in the *Annales de Gynycologie*, by Bechtinger. The third leg was attached to a continuation of processes coccygeus. The patient has a third well developed mamma just above the pubis. The hair surrounding the lower segment of the abnormal mamma covers the two vaginæ which have a well developed vulvæ labia major and minor. Both vaginas are normally supplied with nerves and normal connection with correspondingly natural sensations is possible in either vagina. The sexual appetite is very markedly developed. She came from Brazil to Paris in order to meet with a Frenchman of whom she had heard who had a double genital apparatus and three legs.

Dysmenorrhœa in young girls is treated by Goubet, *Gazette de Gynecologie*, with iodoformised asafœtida as follows: Iodoform gr. ½ ext. bellad. gr., ⅙ asafœdita, gr. 1½, make into one pill which is to be taken six times daily, a week before menstruation.

Galvanism in acute sub acute pelvic inflammation is the subject of a paper by Apostoli, in *Nouveau Arch de Obstetrique et Gynecologie.* Fever and inflammatory conditions do not necessarily preclude in his mind, the methodical use of the constant current. Salphingitis and hydrosalpinx may be safely so treated if the tumor be close to the fornix. Suppuration is a contra-indication to this mode of treatment.

Puerperal Mastitis is the subject discussed by Olshausen in the *Annals de Gynecologie.* He, with most of the new school has accepted the theory that mastitis is always consequent upon infection. Most cases show the staphylococcus. Proper treatment includes strict antisepsis and the cleansing of the mouth of the infant. When the process of inflammation is superficial, apply bladders of ice. If the fever continues to thirty-six hours, suppuration is certain and incision becomes necessary. Drainage and dressing the wound antiseptically complete the treatment.

Antipyrine for after pains is the suject of a *memoire* by Riviere (*Gazette Hebdomadaire*). The author shows the advantage of antipyrine for diminishing the pain without modifying the contractions of the uterus, and, in consequence relieve the after pains. It possesses a real superiority to opium which calms the pains and suppresses the contractions. The author has administered antipyrine via the stomach in doses of one gramme, and in this manner has, in many cases, decidedly calmed the after pains. He sometimes increases the dose to two grammes but that is the maximum and it is rarely necessary to pass it. When given in this amount the antipyrine is administered in divided doses, the one separated from the other by an interval of one hour.

The contagiousness of vulvo-vaginitis was the subject of a report by Olliviere made to the French Academy of medicine (*Gazette Hebdomadaire*). He had observed the disease in five little girls who were being cared for in the wards of his service, in the hospital for the diseases of children. Five days after the arrival of two of these little girls, affected with this disease, the three others were successively contaminated. The transmission is made by the hands of the attendant and the articles used in cleaning. After the adoption of antiseptic precautions it was not transmitted to a new case.

Double placenta existing in a single pregnancy was an interesting specimen exhibited to his colleagues at the French Academy of Medicine, by Guemot. This was a very rare specimen. There were two placental disks and each was supplied with its own vascular apparatus which eminated from the cord direct.

Utero-Ovarian Gout is considered by Mabboux in *Bulletin de Gen. de Therap.*, and the following conclusions reached: 1. Gout may localize itself in the female genital organs during sexual life as well as after its cessation. There are metritis, vaginitis and vulvitis of gouty origin. 2. These outbreaks of genital gout may either occur during menstruation or in the dysmenorrhœic form or in the interval. 3. Utero-Ovarian Gout is amenable to the same hydro-mineral medication as are other forms. 5. After the subsidence of all inflammatory action, the strong sodium bicarbonate waters are indicated in the non-anemic and especially in the plethoric. 5. The cold calcic sulphate waters are beneficial in most cases because of their resolvent, sedative, and tonic action. They may be used soon after the acute stage.

CREOSOTE IN PHTHISIS PULMONALIS.—Beverly Robinson (*Am. Journal of the Medical Sciences Jan.* 1889) has been using creosote in pulmonary consumption with some show of success. He has not found that it has any antibacillary action, but it seems to have the effect of promoting the growth of fibrous tissue around an area of consolidated or broken down lung structure. Its action is effective through favoring general nutrition rather than in virtue of its antiseptic properties. After the use of creosote in such cases with favorable results, a sclerosis or fibroid condition of the lungs around the broken-down part takes place and later the ausculatory signs of bronchial breathing and and bronchphony on the periphery of this area give evidence of this change. He warns against mistakes through using the wrong kind of creosote. Commercial creosote obtained from the distillation of coal-tar will not do; but the pure creosote from beechwood-tar should be used. It should be taken in small quantities and gradually increased. Three to six minims a day continued through many months have the best effect. One formula which he uses is:

℞.	Creasoti (Beechwood)	mvj
	Glycerini,	℥ j
	Spts. Frumenti,	℥ ij

S. At each dose.

Another way is to prescribe one minim of creosote to each teaspoonful of water when it is not desirable to give whiskey. If the creosote is well dissolved and diluted it will not prove irritating nor unpalatable.

Another formula which Fräntzel uses is:—

℞.	Creasoti,	mxv
	Tinct. Genthian,	mxj
	Spts. Vini rect,	ʒ vj
	Vin. xeres q. s. ut. fiant,	℥ iv

S. ℥ ss. Teaspoonful at a dose.

Creosote may be also given in capsules with cod liver oil. In addition to the drug used internally he gave inhalations of it in one of the following formulæ:—

℞.

Iodoformi,	g. xxiv
Creasoti,	m. iv
Ol eucalypti,	m. viij
Chloformi,	m. xlviij
Alcoholis, ætheris aa q. s.	℥ ss

℞.

Tinct. iodi æthercalis,	
Acidi Carbolici,	aa ℥ ij
Creasoti,	ʒ j
Sp. Vini rect.	ad ℥ j

℞.

Creosoti,	ʒ j
Alcoholis,	ad ℥ ss

His total number of cases treated was over three hundred. The effect of this treatment in the majority of cases, seems to remove the cough, night-sweats and dyspnœa and diminish the sputa. The appetite and weight were notably increased. In conclusion he says:

I am convinced, in view of what I have seen, the proofs of which I have stated, and notwithstanding their imperfect character in many particulars, that we have in beechwood creosote a remedy of great value in the treatment of pulmonary phthisis, particularly during the first stage. Not only does it lessen or cure cough, diminish, favorably change, and occasionally stop sputa., relieve dyspnœa in very many instances; it also often increases appetite, promotes nutrition, and arrests night sweats. It does *not* occasion hæmoptysis, and rarely causes disturbance of the stomach or bowels, except in cases in which it is given in *too large* doses.

CLINICAL RECORDS.

ST. THOMAS'S HOSPITAL.

CASE OF MENINGEAL HÆMORRHAGE DUE TO INJURY, WITHOUT FRACTURE OF THE SKULL, IN WHICH RECOVERY FOLLOWED TREPHINING AND REMOVAL OF THE CLOT; REMARKS. Under the care of Mr. John Croft.

Few cases present more of interest to the practical surgeon than those in which hæmorrhage between the dura mater and the bone has followed an injury to the head, whether this hæmorrhage be in the region of the middle meningeal artery, its usual seat, or in other parts. Many of the symptoms found in compression of the brain were present in the case which we record below, and to which we drew attention in December, 1887. It is not, however, a typical "text book" case, as there was no interval of consciousness before the advent of those cerebral symptoms which pass into coma with greater or less rapidity in the majority of such cases. In this particular instance it was not possible to diagnose the presence of hæmorrhage until the hemiplegia developed. The patient had been drinking, and was suffering from the effect of the immediate damage to the head. She was flushed, her respiration was stertorous, pupils equal, etc., and there was a possibility that her condition was due to drink. Jacobson, in a memoir* on Middle Meningeal Hæmorrhage, says that in about a third of his collected cases there was no interval of consciousness, which has varied in recorded instances from fifteen minutes to nine days before the advent of coma. Hutchinson† regards the regaining of consciousness as more frequent and a most important symptom in the history. It may be absent also when the opening in the vessel is of large size and the blood quickly poured out. These cases frequently run a rapid course. It is curious to note how slight the injury may be which is sufficient to start a fatal hæmorrhage; a blow in the temporal region, not producing any change in the mental equilibrium even of monetary character, may be followed by an extensive and, if unrelieved by operation, fatal hæmorrhage. There may be no fracture, as in this case, or only a fissuring of the inner table; whilst the part struck may only indicate the presence of a slight bruise or small wound. It is important to remember this fact, for on more than one occasion a surgeon has refused to trephine, having found the bone uninjured on close examination, and the patient has died unrelieved. Sir Charles Bell drew attention to this point in his "Surgical Observations."‡ As regards the treatment of the clot, it is considered advisable to remove as much as possible, and that by early operation. Its source varies; usually due to laceration of either the main trunk of the middle meningeal or its anterior divisions, it may follow rupture of some posterior branches. In two out of sixty cases no laceration of artery was found. An instance is recorded in which fatal hæmorrhage took place into the posterior fossa.§ On removal of the clot much difficulty may be experienced in arresting the hæmorrhage from the wounded vessels, and various methods have been tried—lifting the patient up, then application of ice, and compression of the common carotid. Howse‖ ligatured the external carotid, and Liddell‖ the common carotid. Ligature of the external carotid, when other methods fail, is also recommended by

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* "Guy's Hospital Reports," 1885, p. 146.

† "London Hospital Report," vol. ii, p. 51.

‡ "1816, p. 466. Of seventy cases collected by Jacobson there was a fracture in sixty-two.

§ *Medical Times and Gazette*, 1875, p. 337. (No fracture.)

‖ "Clin. Soc. Trans.," 1885.

Symonds,[*] who left artery forceps on the vessel. We do not find anywhere mention of elastic pressure by means of antiseptic sponges as employed by Mr. Croft. Jacobson gives the successful cases of trephining for meningeal hæmorrhage as follows: Guthrie, three cases, 1812; Tatum, 1812;[†] Keate, 1839; Cock, 1841;[‡] Watson, 1856; Erichsen, 1878;[§] Adams;[‖] Howse, 1884; Swain, 1885.[**] He also refers to two cases by Hill of Dumfries, 1750–1751. A former case by Mr. Croft, to which he alludes in his remarks, has been overlooked.[††] A youth æt. 18 years fell on the deck of a ship; he was unconscious, and continued so until the operation. There was no external wound. A starred fracture was found, and a large coagulum removed from under it. Before the operation there was paralysis of the arm and leg, and the pupils were equally large. Complete recovery resulted. Others have also been published during the last three years. At the Medical Society,[‡‡] Mr. Davies-Colley related the case of a carman, æt. 53 years, who was trephined by him on the eleventh day after an injury to the head, followed by paralysis, and a large clot removed. Dr. Calder [§§] of Leith trephined on the third day for increasing unconsciousnes, pain and swelling above and in front of the right ear, with ptosis, external squint, and dilated pupil. The man æt. 26 years, made a rapid recovery. Those wishing to become fully acquainted with the literature on this subject cannot do better than consult the writings of Jacobson, Hutchinson, Wiesman of Zurich (who summarises 278 cases), and the lectures by Sir Prescott Hewitt.[‖‖]

C. S.——, æt. 31 years, married, was admitted about midnight on December 10, 1887. She had been knocked down and kicked by a horse half an hour before admission. She was unconscious, and the pupils did not act to light. She moved slightly when the supra-orbital nerves were compressed, and when an attempt was made to examine her eyes she used both hands to push away the surgeon. There was a lacerated and contused wound of the scalp about an inch and a half long behind and below the left parietal eminence, but no fracture was detected. During the early morning the symptoms of compression became more marked, and later in the morning paralysis of the right arm and leg was observed. The face was not affected.

Mr. Croft, who was sent for, saw the patient at 3 P. M. of the 11th. The paralysis remained the same. The left arm was frequently moved. The pupils were contracted and equal. Pulse, 160; respiration 30 to the minute, and stertorous. Trephining was at once resorted to. The scalp wound was such that it appeared to negative the use of a valvular flap of the scalp. The trephine was therefore used in the situation of the original wound when it had been sufficiently extended. On removing the circle of bone, part of an extended clot was exposed. This was black and granular, of characteristic appearance, and weighed about two ounces and a half. Another circle of bone was taken out in front of the first. When the greater part of the clot had been scooped and syringed, arterial blood was found to well up from the posterior part of the opening, probably from a posterior branch of the middle meningeal artery. The bone was cut away in this direction for another inch or more until the source of the bleeding could be reached. As no vessel could be seized by forceps, sponge (antiseptic) pressure was employed. Antiseptic silk was attached to each compress. The edges of the skin were brought together in the form of a cross, drainage provided, and the dressing completed antiseptically. The dura mater had not been punctured or torn, though it had been detached extensively. Within six hours the right leg showed signs of returning power.

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[*] 1862, after shell wound, recovered.

[†] "System of Surgery," vol. i, p. 576.

[‡] "Guy's Hospital Reports," 1842, p. 15.

[§] Ibid., 1878, Clin. Lect.

[‖] "Cooper's Dictionary," vol. i. p. 916.

[**] *British Med. Journal*, December 12th, 1885.

[††] *Medical Times and Gazette*, 1857, p. 500.

[‡‡] March, 1888.

[§§] *British Medical Journal*, vol. i, 1889, p. 74.

[‖‖] *Medical Times and Gazette*, vol. ii., 1855, p. 79, et seq.

At 10.30 on the morning of the 12th, or within twenty hours of the operation, the patient was less unconscious. A little later she began to be restless, drawing her legs up and trying to sit up in bed. On the morning of the 14th, she was more conscious, and when spoken to answered "yes" to several questions. This was the first occasion of her uttering any articulate sound. During this time the progress of the wound was asceptic. The plugs were removed without any recurrence of hæmorrhage. The contused edges of the wound failed to unite. Although the cranial wounds followed an asceptic course, and the head symptoms steadily improved, the temperature rose and kept about 100° until the afternoon of January 16th. The cause of this condition of febrility was in a lacerated and contused wound in the right groin; it suppurated. When it had been properly drained and dressed the temperature subsided. On the fourth day she was able to recognize her friends. She was occasionally very restless, pulling at the dressings on her head and trying to get out of bed. She frequently said, "Oh, I do feel so bad!" or "Oh, my poor head!" In the afternoon of the day she passed urine naturally for the first time since the accident. On the fifth day she was troubled with diarrhœa. On the sixth day, as she appeared to be flagging locally and generally, some stimulants were ordered. On the twelfth day she was less unmanageable and less restless. She called for her little boy at the top of her voice. She did not always call attention to her wants. On the fifteenth day she was quite free from febrility, but restless and peevish and contrary. She spoke more clearly, but used wrong words. The wound was slowly healing in the central part, where the lacerated contused edges had disintegrated and suppurated. On January 6th she had frequently some trembling movements in the left leg, and these had been observed more or less since the third day, but they had been transient and painless, and never followed by any loss of power. They were now less frequent and milder than they were at first. She had all along required morphia to subdue her restlessness and to procure sleep. After the above date she began to sleep better and the diarrhœa became less frequent. On the 12th, lucid intervals were observed, and during them she talked rationally. On the 15th she recognized her husband. On the 21st, or forty-one days after the operation, she could write legibly and intelligibly, but with such little mistakes in spelling as "Carilione" or "Carilone." On the 23d the eyes were examined with the ophthalmoscope. The optic discs and retinæ were pronounced healthy. The improvement was steadily maintained from this date. She could read and keep up her attention to the subject she was reading. She slept fairly well at night. The wound healed in the central part by granulation, sinuses remaining open in communication with pieces of dead bone which were separating from the posterior part where the bone forceps had been used. On February 3d she got up for the first time. She might have been allowed up earlier than this so far as the head wound was concerned, but the state of the healing wound in the groin had not permitted her moving about. She was kept in the hospital under observation until May 8th. As she seemed then to be fairly well, able to take care of herself and to manage her own affairs, she was allowed to leave the hospital. She was provided with a metal plate to protect the injured part of the head. Since then she has changed her lodgings and has been lost sight of.

Remarks by Mr. Croft.—The remarks on this case may be arranged under the two heads of diagnosis and mode of operating. Under the first head there is little to be said, as the symptoms of compression were sufficiently definite and uncomplicated to indicate pressure from extravasation of blood between the dura mater and bone, and the symptom of paralysis of the right arm and leg was sufficiently marked to enable one to localize the situation of the blood-clot independently of the presence of the scalp wound. Under the second head there is more to be said, for it involves the consideration of the best way to deal with a lacerated and contused wound of the scalp when it is situated in the middle of the flap which the surgeon would wish to raise off the region of skull to be trephined. A wound of such a character as the one in the case narrated presented serious difficulties in, and obstacles to, obtaining primary union in all parts of the flap where such a mode of union is particularly desirable. The edges of the wound were cleansed and freshened and sutured with a view to obtaining a watertight covering to the trephine holes, but the effort failed. The consequence of this perforation in the flap was that that portion healed by a slow process of granulation and cicatrisation based on the dura mater itself. I would advise that in such cases the bruised edges should be freely trimmed and carefully sutured, and that before laying down the flap plastic surgery should be brought into requisition so that primary union between the flap and the dura mater may be surely secured. Where the periosteum corresponding to the scalp wound has been injured, it should be cut away, for if left it will prove an obstacle to rapid healing. In this case it will have been noticed that necrosis took place at the edges of the bone, where bone forceps had been used to clip and cut away the hard adult bone. I am inclined to think that the saw is the preferable instrument as it is less likely to lead to necrosis, and therefore it is better adapted to promote rapid healing of the wound. The success following such severe injuries as that of C. S—— does not bear comparison with the brilliant and rapid results of trephining where there is no scalp wound, and particularly the results of trephining for tumors of the brain; for in such cases, if Mr. Victor Horsley's plan of operating be carefully followed, complete primary union should be the rule. The first case in which I trephined for compression and paralysis from blood clot, was performed before antiseptic surgery, viz., in 1857. The result was perfectly successful.

ABDOMINAL MASSAGE IN CONSTIPATION AND ALLIED CONDITIONS.

By T. Gerald Garry, M. D.

During the past few years I have seen a large number of cases of constipation successfully treated by massage (many in conjunction with that eminent authority on the subject, Dr. J. F. Little, of Welbeck Street), and believe it to be the most reliable remedy yet brought before the notice of the profession for this obstinate condition. In the majority of cases it will be found a specific, if the manipulations are carried out with due regard to the cause of the constipation. Unless this is done, failure is quite possible, and it is even conceivable that harm may result; for massage is not simply a therapeutic agent with localised effects, but a combination of several factors having far-reaching results. This will appear evident from consideration of the physiological effects, which are very important, and may be classified under the following heads.

Mechanical.—This is of the greatest importance, and not only exercises its influence on the gastro-intestinal canal, but also on the large ducts opening into the intestine, as well as the ducts of the abdominal glands. It also causes an emptying of the veins of the portal system, and I think there can be little doubt that it stimulates the bile-secreting functions of the liver. In its action it thus resembles both the hydragogue and cholagogue purgatives, particularly the latter. There is a class of cases of greater frequency perhaps than is generally supposed, and almost confined to persons who live freely and suffer from sluggish livers, where there is retention of bile in the gall-bladder and within the ducts. It is in conditions of this sort that massage finds one of its most useful applications, and the remedy need only be tried to command entire satisfaction. Even when the obstructions in the ducts is more serious, massage will be found extremely useful, as was well exemplified by a case that came under my observation some time ago. The patient, a middle-aged man, suffered from jaundice, in all probability due to obstruction in hepatic ducts. Treatment by massage was commenced; the obstacle—very likely inspissated mucus—

was removed after half-a-dozen manipulations, with entire and remarkable disappearance of all the symptoms. It is scarcely necessary to remark that where calculi are suspected, extreme care is necessary in manipulating, else serious injuries may result. The mechanical effects are best carried out by kneadings and strokings. The former acts directly by the fingers of the operator laying hold of and loosening the impacted fæces through the abdominal walls, and indirectly by increasing the secretions passed into the intestines, thus facilitating the progress of the loosened mass. The strokings act directly, and, when conducted with due regard to the situation of the colon, give a natural direction to the loosened fæces. The strokings are also extremely useful in the various obstructive conditions already alluded to.

About the next effect—the *reflex*—there can be no doubt concerning the well-known physiological fact that even slight tapping on the surface of the abdomen causes contraction of the intestinal walls. It is best carried out by slappings (*tapotement*) done with the palmar surface of the fingers, or, better still, with the half-closed fist. *Tapotement* acts principally on the intestinal walls, to which it imparts tone.

The *thermic* action is not so hypothetical as it may appear to some. Dr. Eccles, in his paper read before the last meeting of the Association at Glasgow, conclusively proved this, and I have myself lately conducted some experiments which mainly coincided with the facts adduced by him. In all the cases experimented on the temperature rose from 1½° to 4°, as shown by the thermometer in the rectum. When the thermometer was placed in the mouth, the variations from the average normal were unsatisfactory; in one case there was an increase of nearly 5°, but in others there was a slight decrease.

The *pulse*, as indicated by the radial and temporal arteries, was, without exception, materially slower, a circumstance which it is difficult to account for, but it must be taken as an indication of great practical importance.

It will be seen from the foregoing results that a routine plan of treatment is quite inadmissable in abdominal constipation and obstructive conditions of the hepatic ducts. If we only ascertain the exact nature of the case, the exact procedure to be followed will suggest itself. It is because this is not done that we hear of so many failures even after weeks of treatment. The following cases may perhaps be of some practical use, as showing the conditions that existed and the manipulations employed for their successful treatment.

CASE I.—The patient, a clerk, complained of nothing but constipation from which he suffered for years. He presented a fairly healthy appearance; the muscular system was well developed, and the abdominal wall was normal in appearance and natural to the touch. In this case the manipulations were confined to short, sharp tappings, practised in the direction of the ascending, transverse, and descending colon. After about eight minutes deep stroking were resorted to for a few minutes, but after a time it was sufficient to practise the former alone.

This man was perfectly cured after five weeks' treatment. Lately for cases of this sort I am in the habit of using the faradic current for about five minutes, and commencing with four cells. The instrument used is Coxeter's new patent, a most perfect machine.

CASE 2.—This patient was a middle-aged lady, with a history of uterine trouble. She could walk but very imperfectly, and complained soon of a feeling of exhaustion. The entire muscular system was wanting in tone, the abdominal muscle being particularly weak and flabby. She complained of a sense of weariness along the spine, but there was never actual pain. So far as could be ascertained, the secretions were normal, except that the urine frequently contained large quantities of urea. I believe that this condition will be found to exist in a large class of neurasthenics when no degenerative changes are to be found in the spinal cord, but simply atony brought on in most cases by overwork or anxiety. This case will be found typical of a large number of others, and, as it is the constipation which gives the most trouble, it is the symptom for which the medical man is usually consulted. Here there is loss of tone not only in the abdominal muscles, but also atony of the intestinal walls, and our object must be to strengthen those parts. This is best attained by certain manipulations, which include circular movements, kneading and *tapotement* or *pétrissage.* The first procedure can be carried out either with one or both hands, and it is necessary that the abdominal walls should be slightly relaxed, so that the intestines can be reached and acted directly on. But in a case of this nature, although abdominal massage will effect a great deal of good, it will not be productive of lasting benefit if we omit to massage the spine. The cause of the constipation is partly situated here; there is functional derangement of the cord, and until this is removed by mechanical stimulation it is hopeless to expect a complete cure. In these cases I have noticed that from the first day in which massage was commenced, the excessive secretion of urea decreased, and after a week had disappeared altogether, leaving the urine perfectly normal. This is the first time that a similar observation has been made, although it has been admitted that galvinisation of the spine has a similar effect where an atonic condition of the spinal cord is found to exist.

CASE 3.—This case is typical of that large class of both sexes who enjoy good health and suffer no inconvenience, except that occasioned by constipation. The abdominal walls were flabby and pendulous, and characterized by great weakness. In cases of this sort the manipulations must be directed towards strengthening the abdominal walls, and for this purpose the abdominal recti must be forcibly separated by the finger-tips inserted deeply along the linea alba. This procedure must be followed by the circular movement already indicated. At the same time, the patient is recommended to take deep inspirations for the purpose of strengthening the diaphragm.

Massage is also extremely useful in the very obstinate constipation so frequently met with amongst infants. I have known it prove successful after the failure of the usual remedies. Few applications are needed, generally not more than a dozen, and the time occupied by each should be about ten minutes.

GANGRENOUS IMFLAMMATION OF LABIA: CASE OF NOMA. By E. St. George Queely, Government Medical Officer, Palmer District, Queensland.

The following case has just come under my notice and may be of interest.

Jessie M——, aged nine, had been suffering for about five days previously to my seeing her, from swelling and inflammation of the right labium, which her mother had poulticed continually. When I saw her on the evening of Oct. 12th the right labium was greatly swollen, of a dark-red color, and very painful to the touch, and about the middle there was a small shallow ulcer. The tongue was foul, skin hot, pulse quick, and bowels confined. No history could be obtained, only she felt some irritation there a few days before she complained. She had always been a healthy child, the only illness being an attack ot the measles about four months before. At first her father thought she had been injured by riding across a fence, and suggested a splinter, but of this there was no sign. On the third day of my visit both labia were very enlarged and of deep red color. There was an ulcer about the size of a threepenny piece, and a second, but smaller one, above it. The child screamed on the slightest movement. The urine was passed with difficulty in a standing position, causing great agony. There was a slight discharge from the vulva, from which the epithelium was stripped, leading to ulceration the next day. On the fourth evening there was great itching, which lasted for some hours in spite of all treatment. On the fifth day the symptoms were much worse; the glands in the right groin were enlarged and inflamed, and the abdomen was swollen. The ulcerations had become larger and fresh ones had appeared on the fourchette and perineum. The buttocks were covered with a rash. The vulva opening was continually closed by discharge, and the labia was gangrenous. The bowels were open, dark-green matter being passed, which was very offensive. On the fifth and sixth nights the patient was slightly delirious. The symptoms were unchanged on the seventh day; but from the eighth the disease seemed to decline, and on the sixteenth she was able to leave her bed, and two days after was convalescent.

With regard to treatment, the child was confined to bed and absolute cleanliness enforced. She was placed sitting in a warm bath (into which a little potash permanganate was thrown) three times a day, the parts to be gently syringed with Condy's fluid, and lint soaked in a lotion of opium and carbolic applied. The dressings had to be changed while the child was under the influence of chloroform. The ulcerations were checked by the free use of the solid nitrate of silver. I found zinc ointment made with vaseline and a little carbolic acid of more use and better borne by the patient than any other application; in fact, it was the only thing that seemed to give relief from the excessive irritation, and from the time I commenced the ointment the disease seemed to fade. I used it very thickly, especially between the lips of the vulva. Internally, I gave quinine and iron, with abundance of strong liquid nourishing food and port wine. The bowels were relieved by saline aperients.

On my first visit I diagnosed the disease as phlegmonous inflammation of the labia, but as there was no formation of pus or abcess, and as the ulcerations increased and were gangrenous, with ash-colored secretion and dusk-colored skin, I saw that I had to deal with a more serious affection, which is not fortunately of frequent occurance in Queensland—namely, noma. I believe now that this gangrenous inflammation of the labia was a sequela of the measles, as I since found that the child was neglected during the attack, and that she fell into a low state of health in consequence.

TREATMENT OF TYPHOID FEVER.

Dr. C. C. Comegys, of the Cincinnati Hospital, says, I consider it a disease which we cannot cut short, and I devote my whole attention to the protection of the great organs of the body, from its ravages. The position of the physician in its management is much the same as the commander of a ship in a tempest: he cannot stop the violence of the storm therefore all his energies are directed to the protection of his vessel, the hull, sails, spars and rigging. I endeavour to restrain the violence of the fever from the first. That is to keep it down as low as 101-102 degrees. This is certainly possible with the use of antipyrine, I deem a certain amount of fever necessary during the course of the disease, to properly sustain the vital actions depressed as they are by the toxic elements. Heat is the first of the vital stimuli. Antifebrine, in my observation is not only a most available antipyretic, but, in virtue of that, lessens the frequency of the heart's action and as veratrium viridi does in proper doses, increases the tonicity of the arteries to their very extremities, the arterioles, and they will sustain the capillary circulation every where. The capillary area, I need hardly say it, is the physiological domain, and too, the realm of pathology: the regularity of the circulation therein, its volume, force and quality being maintained, protects the great organs from destruction, functionally and organically. To preserve the capillary circulation of the system, the elimination of all post organic substances must be thorough and complete, through the kidneys, the skin, the liver, the bowels and the lungs. Antifebrine promotes diaphoresis, diuresis, and biliary flow. Immersion baths, hot or cold, morning and evening, even oftener in grave cases, will greatly excite the healthy function of the skin and otherwise give much comfort to the patient. The baths should not be continued longer than 8 or 10 minutes at a time. Formerly I employed mostly cool or cold baths; now-a-days, I prefer warm or hot ones; for they are just as effectual and more comfortable. A hot bath may range from 104 deg. to 110 deg., a cold one beginning at 95 may be reduced to 85. When it is inconveient to give a hot bath, a profuse diaphoretic action may be brought on by dry heat useing appliances of several kinds. In the West the corn sweat is popular; boiled ears of corn adjusted by blankets to the body is one of the best. For the diarrhoea when it is weakening the patient I rarely employ other than the well known Hope's mixture. If there be constipation as in the malarial variety I direct enemata of cold water and I occasionally from certain indications use blue pill. I feed my patients liberally with milk and bouillon, the milk is often peptonized. To aid digestion or for tonic purposes I order one drachm of C. P. Muriatic acid mixed with four ounces of lemon or any fruit syrup and I direct that one teaspoonful of this be stirred in a glass of warm water which is to be administered as a drink during three or four hours. I also make use of wine or of whiskey in tonic doses, that is as much as two ounces of the latter or four ounces of the former diluted in milk or in water during 24 hours. If albuminuria exists I avoid the use of alcohol for the kidneys are impervious to it and it becomes an irritant.

Congestion of the brain, the lungs, the liver, the kidneys and the mucosa are dangerous complications, for serous effusions and haemorrhages imminent and of fatal tendency. These fearful states are owing to the matter superinduced by toxaemia, I include in this term, the primary specific organism and their excreta,—the post organic products of their fever and their retention in the blood by reason of the emunctories. To prevent this catastrophy free exit of the choked emunctories should be maintained from the first. Delays here are dangerous indeed; but I have seen patients in the terrible strait of an involved brain, lungs and circulation happily relieved in a short time by a profuse sweating induced by a hot bath or hot applications under blankets.

For enteric hæmorrhage I know of nothing superior to the use of castor oil in small doses every half hour till the oil appears in the passages, and I will add for occult capillary hæmorrhage from any part large doses of iodide of potash (40 grains) dissolved in two ounces of water every four hours works wonderfully well. This is the remedy par excellence in conjestion of the brain and lungs in this fever, I have used with much advantage towels wrung out of cold water about the chest and abdomen of my patient. For the relief of tympanites the wet pack is very serviceable,

TUBAL PREGNANCY. By Lawson Tait, F. R. C. S. (Birmingham).

Patient, æt. 27 years, married six years, but never pregnant, menstruated regularly till Christmas, then she had missed till March, during the whole of which time she was confined to bed by what she called inflammation of the womb. She recovered enough to get up, but on the second day of her getting out of bed she was suddenly seized with acute, violent pain, which from the description was probably an acute attack of peritonitis. Soon after a tumor was recognized on the left side of the uterus. Had several attacks of peritonitis.

When seen by Mr. Tait she was emaciated, in constant pain, quite unable to get about, and evidently suffering from pus in the pelvis. Examination revealed a tumor as large as a fœtal head on the left side of the pelvis. Suppuration of left Fallopian tube was diagnosed, no idea of pregnancy being entertained. The abdomen was opened, and the following state disclosed: Omentum glued over contents of the pelvis and below it several coils of intestine adherent, on removing these a cavity was opened up containing a quantity of extremely fetid, purulent fluid. Cavity was as large as a Jaffa orange, and a mass was encountered easily recognized as a piece of placenta. It was now seen that the cavity was a dilated Fallopian tube, forming the anterior, posterior and lower walls, whilst the upper part was formed by the coils of intestine and omentum. All round the cavity were sharp hard points, fœtal bones embedded in cyst-wall. The part of the cyst formed by the Fallopian tube was removed and the pedicle tied. The presence of fibroid proved conclusively the accuracy of the above supposition. This case proves what was not known certainly before: that rupture of a tubal pregnancy into the peritoneal cavity is not necessarily fatal. Such cases no doubt are very rare. Although it is possible to conceive that absorption of the contents of the cyst might take place, yet the danger of the occurrence of suppuration, as in the above case, is so imminent that it is not safe to leave such cases alone. Besides the Fallopian tube could never have resumed its function and for years would have been liable at any moment to suppurate. The patient made a good recovery, and Mr. Tait recommends the removal of the tube together with the remains of pregnancy in all cases. He has drawn up the following table:

Scheme of ectopic gestations in tubo-ovarian tract:

1. Ovarian, possible, but not yet proved.

2. Tubal in free part of tube, and is;

(*a*) Contained in tube up to the fourteenth week, at or before which time *primary* rupture occurs, and then the progress of gestation is directed into.

(*b*) Abdominal or intra-peritoneal gestation, uniformly fatal, unless relieved by abdominal section, primarily by hæmorrhage, secondarily by the suppuration of the ruptured sac and peritonitis.

(*c*) Broad ligament, or extra-peritoneal gestation.

(*d*) May develop in broad ligament up to full time, and be removed at viable period as living child.

(*e*) May die and be absorbed as extra-peritoneal hæmatocele.

(*f*) May die, and the suppurating ovum may be discharged at or near the umbilicus, or through the bladder, or intestinal tract.

(*g*) May remain quiescent as lithopœdia.

(*h*) May become abdominal or intra-peritoneal gestation by secondary rupture.

3. Tubo-uterine or interstitial is (*a*) contained in the part of the

tube embraced by the uterine tissue, and so far as is known, is uniformly fatal by intra-peritoneal rupture (as *b*) before the fifth month.

Mr. Tait adds: "The above scheme gives a complete consistent story of the pathology of ectopic gestation, so far as I know it, and it certainly removes an enormous amount of the confusion which has hitherto existed concerning it, and many of the difficulties encountered in the treatment.—*Lancet*, Sept. 1, 1888.

H. H. TAYLOR (London).

PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

Meeting of March 5, 1889.

DISCUSSION ON DIPHTHERIA CONTINUED.

Dr. T. M. Lloyd read a paper in which he answered briefly some of the questions formulated by Dr. Segur in his paper read at the October meeting of the Association.

Question 2. Are there cases of diphtheria which run their courses, without attracting attention to the throat, or present no membrane if the throat be examined?

Two cases, brothers, æt. six and nine years, under my care last winter had local signs of catarrhal inflammation of trachea only, no false membrane detected; nose, throat and larynx apparently free. The constitutional symptoms were so severe that I was morally certain they were cases of diphtheria and so informed the parents. Both had high temperatures, touching 105° F., for several days, and declining gradually, and followed by considerable anæmia. One—the elder—had concurrently a cardiac murmur which persisted for months (a recent examination showed its presence, though much improved.) The younger patient's disease developed about forty-eight hours after his brother. The father, while nursing these cases, developed a sore throat, and during their progress, another brother, the oldest boy, though kept in other parts of the house, had also an inflamed throat.

Another patient, a young lady, after visiting a friend just convalescing from diphtheria, had both tonsils much inflamed, with white spots so numerous that it seemed as if every follicle had its exudate. This case was attended with much depression at the outset, but recovered under active stimulation with alcohol, tincture of chloride of iron and corrosive sublimate, etc., treated as a case of diphtheria, more rapidly than I had been accustomed to see from the mild treatment ordinarily employed in follicular tonsilitis. This case is noted simply that it may be added to any corresponding facts reported by others.

Question 4. Are there more very mild cases now than were observed in the earlier histories of diphtheria, or does a more critical diagnosis now include cases formerly considered as tonsilitis, simple sore throat, etc.?

As an index of the relative proportion of mild and grave cases occurring in my recent experience, I will state that of my last twenty-five cases ten were of grave character; all tonsilar; two invading the larynx; another reappearing in nose and later involving the lower lip and tongue with extended patches; another was exceedingly persistent, the remaining spots being finally destroyed by the electro-cautery after six weeks duration.

In another the membrane quickly re-formed on the swollen uvula, where a large and complete cast of the same had been expelled.

Two were less severe, but the continuance of false membrane was persistent, in one reappearing after its absence for three days (fever having been also absent for five or six days) and then continuing for another week. These cases lasted three weeks.

One case was followed by secondary inflammation of cervical and sub-maxillary glands, without suppuration.

The balance of the cases had mostly sharp initial attacks; all showed characteristic patches, but they generally ran a milder course under active treatment. All recovered.

Question 5. *a.* Do an increasing proportion of cases recover? *b.* If so, is the result due to better treatment?

Where an active and persistent, stimulating and supporting plan of treatment can be inaugurated at once, on the first appearance of the disease, and efficiently carried out afterward, combined with frequent and thorough local disinfection, I believe an increasing proportion of cases will recover.

Question 6. Does treatment directed to any supposed cause of diphtheria, as microbes, give better or as good results as treatment to "obviate the tendency to death," and are there important remedies other than supporting?

I am persuaded there are important remedies other than supporting ones, but they should never be depended on to the exclusion of the latter when signs of constitutional infection exist. Agents which have a surgically cleansing effect upon the local expression of the disease, and it may be, help to dissipate the same, without causing local irritation (and we are taught this is of utmost importance): I regard as of great value and I think we should seek to attain the most perfect local disinfection in the treatment of every case. Some cases seem not to require more than this.

Question 7. What is the evidence that very large quantities (one or two pints a day) of brandy or whiskey are necessary in severe cases, and what is the limit of alcoholic tolerance?

The great tendency to exhaustion in this disease demands agents that will support the vital forces till the poison can be eliminated from the system; reasoning by analogy, the beneficial results obtained by large doses of alcohol in combating snake poison, also in septicæmia, where they prove the best antipyretic, go far in leading us to expect favorable results from their use in this severe constitutional infection. The confidence in this plan of treatment, induced by the results obtained by those who have thoroughly tried it, is a very strong argument of its value. The tolerance of alcohol in severe cases is most marked, enormous quantities being at times comsumed by children, and that, too, oftentimes for considerable periods after the decline of fever, without signs of intoxication; one child of thirteen took a pint of the best cognac brandy daily, for ten days after decline of fever with no sign of alcoholism.

My present experience leads me to place the greatest confidence in alcohol, very freely administered when indicated, in this disease over any other internal remedy, excepting suitable feeding. Some experience with its free use in some doubtful but severe cases, such as those noted in my reply to question 2, confirms me in this view. It has been used in all my cases of any gravity. Tincture of the chloride of iron has been freely used in about one half of my cases, including nearly all the most serious ones, and usually in connection with corrosive sublimate.

Since becoming more familiar with the employment of corroives sublimate and the free use of alcohol I have felt it safer than before, to dispense with the use of iron, when it became will nigh impossible to administer it frequently to young children. As already indicated I have treated three cases simply with alcohol internally and peroxide of hydrogen locally.

Question 8. If corrosive sublimate be used, what is the evidence:

a. Of bacillicide influence?

b. Of sufficient dosage?

c. Of timely warning of toxic effect?

Corrosive sublimate has been used in most of my cases of late, but usually in conjunction with alcohol and tincture chloride of iron. I cannot therefore form any estimate from clinical experience of its bacillicide influence. Its toxic effect I have not observed. Tolerance of it has been considerable.

In an infant of eleven weeks with a considerable patch on one tonsil, associated with nasal catarrhal symptoms and hoarseness and a temperature of 103° F., the patch disappeared in four days and general symptoms rapidly improved under internal administration of brandy and corrosive sublimate, without iron.

Doses of 1-96 gr. corrosive sublimate were given hourly during day; every two hours at night. Local sprayings in nose and throat with diluted Listerine were frequently employed.

Question 9. What is the value of tincture of chloride of iron; of chlorate of potassium; of surgical interferance?

I regard tincture of chloride of iron of great value in this disease, infrequent and often in relatively large doses for maintaining the integrity of the blood and nervous system; and, locally, for its astringent and tonic influence, during the acute manifestation, and later for combating the sequelæ. Its recognized value in acute and chronic catarrhal inflammations of all the air passages gives an especial point to its suitableness in Diphtheria. Its diuretic action must aid in the elimination of systemic poison.

In reference to dosage, for an adult from five to twenty minims hourly, and if well borne by stomach proportionate amounts half-hourly, in the early treatment of a severe case and continued according to tolerance. The larger doses combined with glycerine, have inspired my confidence.

Gargling and spraying with unirritating solutions of corrosive sublimate I regard as valuable. Constant local application of sulphur is apparently very serviceable. Turpentine locally applied appears to have some softening and alterative effect upon false membrane. Turpentine steam in laryngeal diphtheria has seemed to me very valuable. Solutions of Listerine succeed very well in controlling the foul odor and are undoubtedly beneficial : a limited use of Trypsin seemed to indicate that it had some value as a solvent in laryngeal diphtheria, used with steam atomizer.

Pepsin applied to fauces in two cases did not seem to actively dissolve the membrane.

Peroxide of hydrogen I have used very recently in a few cases of diphtheria, and in some other doubtful cases. The testimony of nurses and patients agree to its marked cleansing effect, frothy expectoration occurring after each application. The first case I used it upon was an adult, a nervous and somewhat debilitated subject who presented long narrow patches on swollen tonsils with a temperature of 103° F., at 10.30 a.m. first visit. The only treatment was free stimulation with alcohol and liquid diet with local spraying and gargling with Marchand's peroxide of hydrogen (strength of solution ʒii to ʒxiv of water). The evening temperature was 102° F., next morning. temp. 100° F., with throat cleaning ; same evening (2nd day), temp. normal, throat practically clean. The second case was a child of nine years, not vigorous, having had several catarrhal attacks during the winter, with fever—same treatment was employed.

First day, maximum	Temp.	$103\frac{1}{5}$	pulse	144	resp.	32
" minimum	"	101	"	112	"	24
Second day, highest	"	$103\frac{2}{5}$	"	124	"	32
" lowest	"	$100\frac{1}{5}$	"	102	"	24
Third day, highest	"	102	"	102	"	32
" lowest	"	$99\frac{1}{5}$	"	94	"	22

On the fourth day some new patches began to appear, although the original ones had gone; when the local and internal use of corrosive sublimate was added to the treatment. After this had been done a test of the peroxide solution was made, and it was found not to evolve fine bubbles of oxygen when heated and that it was not so active in producing the frothy expectoration after its use as at first, a new bottle tested and proven active was employed; the symptoms rapidly improved, so that on the sixth and seventh days the patient was convalescent.

A third patient came to my office stating she had been chilly and cold most of the morning and had recognized considerable fever the previous evening. Temp. 102° F., pulse 130. she did not recognize soreness in the throat and examination did not reveal inflammation or false membrane. The following day characteristic patches were found on the right tonsil, temp. 102° F., pulse 120. Peroxide hydrogen gargle and whiskey ordered any hour during day and two hours during night. Third day, (2nd of special treatment) temp. 101° pulse 108, throat beginning to clean. Fourth day, temp. 100° F., pulse 98, throat clean at 5 p.m.

In connection with question 2. this case is interesting because she felt badly for several days, and had fever for at least thirty-six hours preceding the appearance of membrane in throat. There was no hoarseness; or positive evidence of its earlier appearance in nose.

This agent is free from irritating effect and it seems a most rational treatment to liberate oxygen, in direct contact with the local expression of this infectious disease. My experience in its use is of course too limited to draw any very positive conclusions regarding its value, but I am led to regard it with some degree of confidence and shall embrace opportunity for trying it further.

DR. WM. WILLIAMS, Brooklyn, N. Y.

As this paper is to be very short, it will not attempt to treat at length any of the questions connected with the subject of diphtheria which have been formulated for discussion by this Association. It will attempt to give only a partial answer and that in a very brief way to two of the questions: "Does treatment directed to any supposed cause of diphtheria as microbes give better or as good results as treatment to obviate the tendency to death, and are there important remedies other than supporting?"

It may be said that any treatment which does not oppose the well known prostrating character of this disease, comes short of what in the severe cases is imperatively demanded. With all due respect to the microscope and the microscopic study of pathology, it goes without saying that the physician who directs his treatment to the destruction of microbes but ignores the imperative demand present in the severe cases for support, will be in great danger of finding that the disease has killed his patient before he has succeeded in killing the microbes.

As observed by the writer, the onset of diphtheria, if it is to be severe, has been marked by systemic disturbance, more or less profound, manifesting itself by head-ache, flushed countenance, high temparature and general discomfort.

These symptoms have preceded by some hours, in some cases, one or two days, the development of the peculiar membrane. If figurative language is allowable here, the enemy has been intrenched before the flag has been displayed. Local treatment has its value, but doubtless it has often been overvalued, especially where the patient was very young.

During the last twenty-five years the writer has treated diphtheria by the supporting method. As far as medicinal agents were concerned his chief reliance has been upon quinia and alcohol, giving to adults from five to ten grain doses every four hours, of the former, and of the latter in the form of rum, brandy or whiskey, from half an ounce to an ounce every four hours, but sometimes as often as every two hours.

Recovery of the patient, except in cases where there was laryngeal obstruction, has pretty uniformly followed this method of treatment. About fifty per cent. of the cases where there was laryngeal obstruction have recovered without the performance of tracheotomy. Only two fatal cases in adults can be recalled as occurring during the period named. If restricted to the use of a single remedy, alcohol would unhesitatingly be chosen. It may be added that the writer has never observed intoxication from alcohol in diphtheria.

In discussing the sewer question, it may not be out of place to call attention to a probable method of propagating diphtheria as well as some other diseases. A part of the sewers of Brooklyn are so constructed that they readily carry off the sewage entering them. Others do not fully do this, but become more or less obstructed at times. Some of these can be flushed, and so cleaned, but a part of them are on so low a grade that large quantities of semi-solid matter have to be removed by excavation. The amount in a single year including that taken from the sewer basins is approximately 8000 cubic yards. That which is from the sewer basins is free from human excrement, but it is contaminated with the filth of the streets. The sewer portion of this immense mass of material is saturated with the output of the water closets, the kitchens and the factory drains.

When in the process of cleaning the sewers, the deposit is brought to the surface, it is poured upon the carriage way, and only that part of it which the shovel will take up is removed by the workmen. The remainder is left to be washed away by the rains, or to be evaporated until it becomes dust to be scattered by the winds. That part which finds its way into the cart is removed to some vacant lot and there dumped. In a year or two, perhaps, a manufactory, or a human habitation will cover the spot where the deposit is made. Could a more efficient method be devised for disseminating the germs of disease? It may be asked, where lies the responsibility for all this? The answer is with the Health Department. It has ample power to require and secure a suitable and safe disposal of this filthy material. The attention of the Department has been repeatedly called to this trifling with the public health, but the work has gone on all the same, in the manner described.

MEDICAL SOCIETY OF LONDON.

Macrocephalus and Lipomatosis Neurotica.—Sporadic Cretinism.—Infantile Paralysis.—Vicious Union of Metacarpal Bone.—Wound of Median Nerve.—Subcutaneous Rheumatic Nodes.—Congenital Cyst over Anterior Fontanette.—Ulceration of Mouth.—Excision of Knee by Vertical Incision.

The meeting of the above Society on February 25th was a clinical evening. The president, Sir W. MacCormac, was in the chair.

Dr. Angel Money showed a case of macrocephalus and lipomatosis neurotica. Tremors and splay feet were also present. The head measured twenty-three inches and a half in circumference ; the subcutaneous fatty tissues were greatly overgrown ; the muscular system very ill developed ; walking and standing were impossible, but speech was fairly good. The knee-jerks were exaggerated, but there was no rigidity and no ankle-clonus. The child's weight was 4 st. 4 lb., but her height was only 3 ft. 6 in.

Dr. Money also brought forward a case of Sporadic Cretinism in a child, aged three years ; the chief interest in the case being a considerable bossing of both parietal bones, giving rise to a natiform skull. This bossing might have been due to the bad feeding, to syphilis, or to the same cause as the cretinism ; it was possible that congenital syphilis might be an occasional cause of cretinism.

Dr. Herringham showed a girl æt. 13 years, with old infantile palsey of the left arm. The muscles effected were the pectoralis major and probably minor, deltoid, probably spura-spinatus, infra-spinatus, probably the remaining shoulder muscles, triceps, and muscles of the hand. The serratus magnus was also lost. The flexors of the elbow and the extensors of the fingers and wrist acted, though weakly. The flexor sublimis was also capable of slight movement. Most cases of this disease were exhibited to show distribution of paralysis according to function. He thought the exceptions to this plan were more numerous than was supposed, and he showed this one as such. The muscles in this case were paralysed rather according to their geography than according to their functional co-operation. Dr. Beevor said the case was perhaps somewhat against the idea of functional localization in the cord ; the whole brachial enlargement appeared to have suffered, but some muscles had recovered slight power. Dr. A. Money thought that the amount of damage was so great that the case could not be used as an argument against the functional localization. The structures in the cord in which the functions were represented were not arranged as a mosaic, but overlapped one another. Dr. Herringham replied that the case had lasted twelve years ; there was complete loss of power at the top and bottom of the arm with partial recovery between. The supinator longus acted fairly.

Mr. M. Sheild brought forward a case of vicious union of metacarpal bone remedied by operation. A fracture of the right fifth metacarpal bone was sustained eighteen years previously, producing angular deformity. The parts were rendered exsanguine by Esmarch's bandage, and a V shaped piece of bone was removed with a chisel; the fragments then were drilled and wired together. The bone being very hard, much bruising to neighboring tissues resulted, and one of the tendons of the little finger sloughed. Results of similar operations on the femur were often unsatisfactory. Mr. Rose had recently operated on a case of vicious union of the forearm; there was bad position and fusion of the bone, and the soft parts came much in the way when division was attempted. Mr. Sheild remarked, in reply, that he hammered down the wire on the bone and left it there.

Mr. Rose showed a patient, æt. 39 years, who had sustained a wound of the median nerve two inches and a half long above the left wrist-joint from the explosion of a soda-water bottle; it healed in three weeks. Two months later the scar was cut down on; no fragments of glass were found, but the nerve was adherent to surrounding structures. This was set free, and a fibro-neuroma which had developed at the point of injury was dissected off. For a fortnight afterwards the tenderness and numbness which had previously existed almost disappeared, but a slight fainting fit occurred, followed by momentary delirium. Two months after the first operation there was excessive sensibility of the cicatrix, pain and sleeeplessness, with numbness of the hand and fingers. Five days later the diseased piece of nerve was excised for nearly an inch and a half, and the ends carefully sutured together; in four days more sensation had returned, and the wound quickly healed, there being less numbness and tenderness. Seven weeks after this the patient was seized with violent pain in the shoulder and neck, and he could not move the arm from the side. Touching the cicatrix produced a kind of epileptiform convulsion; this was relieved by bromide of potassium. Seven months after the injury the nerve was cut down on and stretched two inches above the elbow; two days afterwards the scar had lost its sensibility, and the arm could be moved without pain; but this improvement was only temporary, and, as the previous symptoms returned, in three weeks' time the nerve was again exposed and a quarter of an inch excised. The wound healed without suppuration as all the others had done, and the patient was discharged nine days later, being able to move his arm fairly well, and complaining of no pain or tenderness about the region of the original cicatrix. Sensation in the fingers was steadily improving. Dr. Theodore Williams asked if the pupils were enlarged or uneven. Sir W. MacCormac inquired if the patient had suffered from fits before the reception of the injury. Mr. W. Pye desired to know the nature of the enlargement of the nerve which was dissected off. He related a case in which a nerve became strangulated in scar tissue, and was relieved by dissecting the latter away. Dr. Beevor asked if there was pain at the seat of the lesion immediately before the development of the fits. Mr. H. Allingham described a case in which he had relieved a nerve that had become palsied from being buried in callus. Mr. Rose, in reply, said there was an inequality of the pupil;

no fits occurred before the operation; the fibrous enlargement was of an inflammatory nature, and was dissected off without breaking the continuity of the nerve. The patient had pain about the the arm and shoulder before the fits.

Dr. Archibald Garrod showed a boy æt. 14 years, one of whose grandmothers had suffered from rheumatic fever. He had rheumatic fever four years ago, with loud presystolic and systolic mitral murmurs. For five months rheumatic nodules existed in various situations, and were especially well-developed on the knees and elbows, where they were arranged in groups, and were of considerable size. The only other rheumatic manifestation observed during the present attack was slight stiffness of some of the joints at the commencement, which quickly yielded to treatment. In spite of the serious cardiac lesion and the extensive eruption of large nodules, the patient had been in apparently good health throughout. The nodules were composed of fibrous tissue, and in structure resembled cardiac vegetations.

Mr. Pitts exhibited a boy, æt. 9 years, with a congenital cyst over the situation of the anterior fontanelle; it was of about the size of a hen's egg, and was entirely devoid of hair. The fontanelle was apparently closed, but a slight depression could be felt in the bone; the cyst was slightly to the left of the middle line. For three months the boy had been subject to fits, and the mother stated that he did not lose consciousness, but suddenly felt sick, and had spasm of the right foot, which extended to the arm and right side of the face. The child had suffered from similar but more intense fits between the ages of one and three. The diagnosis rested between dermoid and meningocele that had become shut off from the cranial cavity. Pressure on it produced no inconvenience to the patient, and there was no impulse. Sir. W. MacCormac referred to a dermoid cyst in St. Thomas's museum, which was situated in the middle line and pulsated, being mistaken during life for a meningocele. Mr. W. Pye saw little reason to suppose that the dermoid was connected with the fits. Dr. Beevor suggested careful observation of the commencement of the fits, and if they commenced in the foot he would advise operation. Mr. Pitts said he proposed to explore the swelling and remove it, and then carefully examine the subjacent bone.

Mr. Shield showed a case of ulceration of the tongue and mouth, cured by opium. A carpenter, æt. 56 years, had suffered for three years from obstinate ulceration of the sides of the tongue and gums. The affection varied in severity from time to time, but was always a serious trouble, and sometimes prevented him from eating or speaking. No cause was attributed for the occurence of this malady. He had been a temperate man, and had never suffered from syphilis, or been employed in glass-blowing, or was immoderately fond of pipe-smoking. He had, however, been living in a poor way, and his general health had deteriorated greatly. A variety of treatment had been adopted without relief. On examination, the man looked pain-racked, worn and haggard. There were marked fetor and salivation. The left-side of the tongue was superficially ulcerated in several places, the ulcers being covered with debris of food and superficial slough. The right side of the tongue was less affected. The gums were ulcerated round the teeth, and the posterior molars were loose. The mucous membrane was healthy, excepting in the situation of the ulcers. The glands beneath the jaw were enlarged. The ulcers were acutely painful, and the man had to subsist upon fluid nutriment, which he swallowed with difficulty. For three weeks the tongue was treated without any benefit. The remedies employed were small doses of blue pill and colchicum, potassium iodide and tonics; locally, solutions of cocaine and antiseptic mouth washes. A solution of chromic acid seemed only to aggravate the malady. After three weeks the use of opium was commenced; an opium pill of one grain was administered thrice daily, and a simple carbolic mouth wash used locally. In three days the pain was much less, and the ulcers were decidedly more healthy in appearance. In three weeks the ulcers had entirely healed, the only sign to indicate their previous presence being the glazed appearance of the sides of the tongue and the loose teeth. The man, being able to eat and drink freely, had wonderfully improved in appearance. The use of opium in this case was suggested by a paper read by Mr. George Pollock and published in the *British Medical Journal* of April 26, 1884. There he narrated a case very similar to the above, though much more severe, where the effects of opium were most beneficial. His patient had undergone a variety of treatment, including the application of nitric acid, by an eminent authority. The action of opium was difficult to explain in such cases; its undoubted efficacy in painful and sloughing ulcers was perhaps hardly enough appreciated in the present day. Dr. Theodore Williams spoke of the value of opium in ulcers of various kinds; he had seen rapid benefit follow its employment.

Mr. Herbert Allingham showed three cases, two of which were instances of excision for tubercular disease of the knee-joint by the vertical central incision, and one was a case of traumatic division of the ligamentum patellæ, with considerable separation. The cases of excision had made perfect recoveries, and ample room was found by this method to deal efficiently with the diseased bones and synovial membrane. Drainage had been provided at the upper part of the joint posteriorly. When the patella required removal, it could be as easily affected by this incision as through any other, being simply scooped out with a gouge. Excision, when necessary, could be done as well as erasion.

REVIEWS.

CLINICAL LECTURES ON DISEASES OF THE URINARY ORGANS. Delivered at University College Hospital. By Sir Henry Thompson, Surgeon Extraordinary to His Majesty, the King of the Belgians, etc., etc. Eighth Edition. London: J. & A. Churchill, 11 New Burlington St. 1888.

The first edition of these lectures containing twelve discourses was published twenty years ago. This, the eighth edition, has been enriched by the addition of as many lectures as there have been years that have intervened. During this time the book has been translated into French, German, Italian, Spanish and Russian.

To us the lectures were especially interesting, as they purported to cover a good deal of the field presented by an American work that has lately been republished and which it was our pleasure to read and review. Again, from so high an English authority we had almost looked for something out of the ordinary line, perhaps even a little superior to anything else in its line.

Now, while not wishing to express dissatisfaction with this excellent work, we can candidly affirm that our American work is not put to the blush in any respect.

The remarkable experience of the author with stone—some nine hundred cases—naturally gives great weight to anything he may have to say in regard to the subject; and we may say here that it is the part of the book concerned with stone (almost half) that is of especial value.

The endoscope receives an undue amount of notice at the outset, and the lecture on the "Examination of Urine for Clinical Purposes" at the end is short and unsatisfactory. The author hardly does justice to Bigelow in his review of lithotrity; indeed, seems rather to be aggrieved at the just praise our distinguished fellow countryman has received.

The style is that of the lecture room; and in feeling that you are talking with the author—or rather, that he is talking to you—there is a peculiar charm. But let us turn to some points we have noted in reading: First, the author in speaking of the signs of calculus says; "In calculus it (the urine) is said to stop suddenly; but this is an error. It is exceedingly rare to meet with the occurrence, although constantly recorded as a sign in books."

In Lecture IV. on "Stricture of the Urethra and its Nature," the author says: The last obstacle is at the neck of the bladder, and so common is it, that you often hear of 'stricture at the neck of the bladder'—a thing which does not exist." . . . . "There is no such condition and no ground whatever for the use of the term exists."

In discussing the uses of instruments he makes a home thrust—unjustly we think—about the large size of the instruments made and used by Americans; and also hoots at the idea that a urethra should have any fixed size or size proportionate to the size of the penis; and yet he insists on the necessity, when a stricture is cut, of cutting entirely through the stricture. How are we to know to what size we are to cut a stricture if we have no definite idea of what size the urethra should be?

The author has become converted to the use of flexible instruments, though some years ago he was pronounced and decided in his advocacy of solid ones; and his new faith has really carried him beyond the point of recognizing when the good steel sounds are valuable. His idea that the knowledge of the anatomical relations of the urethra will be an embarassment in one's effort to pass an instrument will not have a less unfavorable reception in the minds of Americans than it has in the minds of many of his own countrymen.

He says that he has not "the smallest faith in the power of quinine to prevent, postpone or modify an attack of acute or chronic urinary fever." Perhaps some of our readers may not agree with him?

He does not think it is necessary to inject fluid into the bladder before operating for stone; indeed, he condemns the practice as useless and harmful.

There are many other points we have noted, but we have sufficiently illustrated how different can be opinions on different sides of the water.

The discussion of stone occupies proportionately very much more than any other part of the book, and is exceptionally fine; the lectures as a whole well worthy of careful and attentive study by the genito-urinary surgeon.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Published monthly. Vol. I, No. 1, January, 1889. Contents: "The Pedigree of Disease," By Jonathan Hutchinson, F.R.S. "Common Diseases of the Skin," By Robert M. Simon, M.D. "Varieties and Treatment of Bronchitis," by Dr. Ferrand. Vol. I, No. 2, February, 1889. Contents: "Gonorrhœal Infection in Women," by William Japp Sinclair, M.A., M.D. "On Giddiness," by Thomas Grainger Stewart, M.D. "Albuminuria in Bright's Disease," by Dr. Pierre Jaenton. William Wood & Co., Publishers, 56 and 58 Lafayette Place, New York.

The character of the monographs contained in these two volumes abundantly testifies to the sound judgment of the publishers in their selection. No practitioner of medicine can peruse them without finding many a valuable suggestion available in practice. *The Pedigree of Disease*, like everything from the pen of the accomplished teacher and clinical observer, Jonathan Hutchinson, is intensely interesting. *Temperament*, *Idiosyncrasy* and *Diathesis* constitute his theme. *Temperament*, he believes, divides itself naturally into these two parts, *race* and *diathesis*. In regard to *idiosyncrasy* this author would vindicate for it a wider sphere of influence than is usually accorded it. "In every example of a curious and unexpected form of disease," he observes, "our minds should, I think, first ask the question, 'How much of this may possibly be due to the individual peculiarities of its subject?' we are often on a wrong track if we seek to make external influences explain the whole." His main conclusions as to *diathesis* are that there are three great universal diathesis, the *catarrhal*, the *rheumatic* and the *scrofulous*. *Common Diseases of the skin* is the subject of Dr. Simon's lectures, and is handled in a masterly way. Speaking of the constitutional treatment of eczema, this author insists that the well known attitude of Hebra is absurd and his views extravagant when he maintains that constitutional treatment does no good. The lecture on *ringworm* will probably be found the least satisfactory.

Dr. Ferrand, it must be admitted, has invested the trite subject of bronchitis with a new interest by the originality he displays in its study. He classifies this affection into the following varieties: congestive bronchitis, catarrhal bronchitis, inflammatory bronchitis, spasmodic bronchitis. He insists upon it that congestive bronchitis can be differentiated from catarrhal and inflammatory bronchitis, and that clinically these varieties ought to be differentiated, both from the standpoint of diagnosis and therapeusis. Whether his views be accepted or not it cannot be denied that he has done his work well and conscientiously.

The second number contains as its first monograph a treatise on Gonorrhœal Infection in Women, from the pen of William Japp Sinclair. The importance of this affection can hardly be overstated. It is therefore, greatly to be regretted that the contention of this author is but too true, that erroneous and inadequate views are still taught in regard to the pathology and treatment of gonorrhœa in women. Dr. Sinclair does full justice to the work of Noeggerath, and considers it "a fruitful idea, under whose inspiration other men saw in a fresh light the facts of daily experience, and could recognize in them the material for building up the required superstructure of new knowledge." Gonorrhœal infection in women not only concerns the gynæcologist, but deserves the closest study on the part of the general practitioner, and much good will doubtless be done by this admirable essay in spreading among medical men a better knowledge of this group of diseases. What practitioner can be found who has not been consulted again and again about the distressing symptom *giddiness*, and how often has he been puzzled to account for its cause? Hence the lectures of Dr. Stewart will be found very instructive and full of practical hints. Giddiness due to Menière's disease is especially discussed with rare ability. The essay of Dr. Pierre Jeanton on the clinical value of *albuminuria* in Bright's disease discusses a subject of vast importance in daily practice. From his careful study he concludes that " the clinical value of the symptom albuminuria in Bright's, whether considered from the standpoint of diagnosis or of prognosis, is rather restricted ; in order to affirm the renal affection, in order to state its progress and consequences, albuminuria may answer, but not alone."

The Functions and Disorders of the Reproductive Organs in Childhood, Youth, Adult Age and Advanced Life. Considered in their Physiological, Social and Moral relations. By William Acton, M.R.C.S., Fellow of the Royal Medical and Chirurgical Society, etc. Seventh Edition. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St. 1888.

The most curious thing about this curious book is that it should have gone through seven editions. Granting to the work all the merit it possesses, it is not written especially for medical men; or rather it is written more especially for the general public.

The subject with which it deals is always a matter of much speculation to the non-professional class as well as a field of much peculation to the horde of humbugs. If the book possesses no other merit, it does possess that of giving frankly and in plain terms many minute directions that are valuable and interesting.

It is rather strange that a medical man (in the case related on page 190), should have had to go to another to find the source of his trouble; but if such cases exist even among the profession, it may be more incumbent on them to read the book than would at first sight seem to be the case.

We may quote in conclusion a sentence from the *Lancet's* criticism of the book: "In the work now before us, all essential detail upon its subject matter is clearly and scientifically given. We recommend it accordingly as meeting a necessary requisition of the day, refusing to join in the opinion which regards the consideration of the topics in question as beyond the duties of the medical practitioner." But we may add one comment: the book itself, in that its style and contents are suited to the *οἱ πολλοί* is more apt to put such duties out of the reach of medical men than any sense of diffidence or indifference on the part of the profession.

Exploration of the Chest in Health and Disease. By Stephen Smith Burt, M.D., Professor of Clinical Medicine and Physical Diagnosis in the New York Post-Graduate Medical School and Hospital. New York: D. Appleton & Co., 1889.

In view of the many small books that have within the last few years been issued on physical diagnosis, we were a little surprised to see a new one appear at this time; but if there was any element of suspicion or distrust, the reading of the book removed every vestige of it and completely satisfied us that at least *this* book was called for. Our time and space forbids anything more than a cursory statement of what struck our minds as the merits and demerits of the work:

First, then, while written at the request of his students (as the author states in his preface), it bears in mind the needs of the student, and does not give him page after page of idle speculation, which can only take his time from other studies, but does state promptly and to the point what is to be known. Indeed, in being so concise, it has, perhaps, at times, been obscure. But the "summaries" are excellent and the author has the faculty of presenting his thoughts in an attractive form. The illustrations scattered throughout the book are for the most part unnecessary and not of much service. Those done on separate sheets are good enough from an artistic standpoint, but they are not especially called for by the text. The introduction, in giving the location, etc., of the organs, does so in a rather too general and indefinite manner. Between forced inspiration and extreme expiration two and a-half to four inches is too small a margin. Many men have an expansion of over four inches.

On page 115 the author says: "The hydrothorax has for its remote cause an organic lesion of the heart or the kidneys and, *as a rule*, is bilateral," etc.; and on page 121 he correctly states that in hydrothorax the effusion is *always* double. In giving directions for aspirating he might have said something of making a flap by drawing down (or up) the flesh.

On page 156, in giving the association of various changes in the ventricles and auricles with varying lesions of the valves, it would have been just as well to give the rationale of the same.

Fatty Heart receives meagre attention; and the sounds produced by ruptured valves and chordal tendeniale are not mentioned. Indeed the treatment of the heart is fine, as far as it goes, but it is not full enough. But we must repeat that the book is in most respects excellent; and in point of typography it is perfect; or at least we did not find a single typographical error.

THE PATHOLOGY, CLINICAL HISTORY AND DIAGNOSIS OF AFFECTIONS OF THE MEDIASTINUM OTHER THAN THOSE OF THE HEART AND AORTA, WITH TABLES GIVING THE CLINICAL HISTORY OF FIVE HUNDRED AND TWENTY CASES. Being an Essay to which was awarded the Fothergillian Medal of the Medical Society of London, March, 1888. By Hobart Amory Hare, B.A.S., M.D., (University of Pa.), Demonstrator of Therapeutics and Instructor in the Medical Department, and Instructor in Physiology in the Biological Department of the University of Pa., etc., etc. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St. 1889.

This remarkable essay has been put into a neat form by the publishers. It deals with a subject rarely touched upon in a serious way by medical writers, and yet a field of great interest. It is a splendid piece of work and sets forth clearly and in tabular form practically all that is known or has been written on the subject. The University of Pennsylvania may well be proud to have been alma mater to its author. The book is intensely interesting and must receive a large patronage from intelligent and industrious physicians.

HAND-BOOK OF MATERIA MEDICA, PHARMACY AND THERAPEUTICS. Compiled for the Use of Students Preparing for Examination. By Cuthbert Bowen, M.D., B.A., Editor of "Notes on Practice." Philadelphia and London: P. A. Davis, Publisher, 1888. Price, $1.40, net.

The author says: "While this is essentially a *student's* manual, a large amount of matter has been incorporated which, it is hoped, will render it a useful reference book to the *young graduate* who is just entering on his professional career, particularly the individual whose sphere of work demands a more practical acquaintance with pharmaceutical processes than is required of the ordinary city practitioner." The book is in the form of questions and answers—a form that appeals especially to the student class. The work has evidently been prepared with much care, and the numerous prescriptions, rendered all the more palatable for the correctness of the Latin, will make it a safe and useful book. We are pleased to note the thorough, accurate and conscientious way in which the work has been done.

BRIGHT'S DISEASE OF THE KIDNEY. By Alfred L. Loomis, M.D., L.L.D., Professor of Pathology and Practice of Medicine, New York University Medical College. 1888. George L. Davis, Detroit, Mich.

We are rather inclined to think that "Bright's Disea*ses* of the Kidneys" would have been more nearly accurate title for this little book. The subject and the author are a sufficient guarantee that the book is worthy to be a member of the "Physician's Leisure Library." The context is not essentially different from that given in the author's text book—Practical Medicine—in the consideration of the same subject. Much of the ground was covered by the little volume by Dujardin. Beaumetz on Diseases of the Kidney which was issued a short time previously by the same publisher. The *brochure* is well written and exceedingly useful to the practicing physician.

THE large catalogue of medical books and journals issued by Dr. A. E. Foote, of 1225 Belmont Avenue, Philadelphia, has the same relation to the ordinary commercial catalogue as the Index Catalogue of the Library of the Surgeon General's office does to the ordinary catalogues. It is now being issued, being complete as to hygiene, yellow and other fevers; obstetrics, surgery, anatomy, practice, urinary, venereal, brain and nerve, etc. When fully completed it will include over 1,400 titles. It is sent free to every physician requesting it on headed paper, or by including his professional card. It will be found useful to any practitioner who thinks or writes. He issues similarly complete catologues on chemistry, physics and geology, and on all other branches of science.

PHARMACY AND THERAPEUTICS.

SYNTHETIC COCAINE.—In the preparation of cocaine from coca leaves it is found to be always accompanied by several secondary amorphous alkaloidal basis which must be separated before the cocaine is fit for use as an anesthetic. One of these bodies was recently described (See ERA, Dec., 1888. p. 481) by C. Liebermann, who, from a study of its characteristics and properties, gave it the name of isatropyl-cocaine, or, cocaine in which isatropic acid had taken the place of the benzoic group. Isatropyl-cocaine, as also the bases accompanying it, has been found capable of forming ecgonine by boiling with mineral acids, filtering off the separated acids (benzoic, etc.), evaporating the fiiltrate to dryness. The residue, hydrochlorate of ecgonine, is purified by extraction with alcohol, which removes all remaining traces of contaminating acids. From this hydrochlorate, soda sets free the base ecgonine, which, after crystallization from alcohol, is found to be absolutely identical with ecgonine derived from cocaine.

C. Lieberman and Dr. F. Giesel have just reported the results of an effort to convert ecgonine into cocaine, a synthetic change which heretofore had not been accomplished. There exists between ecgonine and cocaine the intermediate base, benzoyl-ecgonine, or ecgonine, in combination with the benzoyl nucleus, and the problem presented was how to effect this combination, The successful method consists in adding gradually to a hot saturated solution of ecgonine in water rather more than one molecule of benzoic anhydride, and digesting for one hour. Excess of benzoic anhydride or any benzoic acid is removed by shaking the mixture with ether, and the residue, washed on the filter to remove unaltered ecgonine, consists of pure benzoyl- ecgonine.

The farther conversion of benzoyl-ecgonine into cocaine was a step easy of accomplishment, and had already been effected by several investigators. Merck found that by heating benzoyl-ecgonine in sealed tubes with methyl alcohol and methyl iodide, a small percentage of cocaine was produced. Einhorn, somewhat later, offered a much simpler method of converting benzoyl-ecgonine into ethylic or other compound ethers. His process was to pass dry hydrochloric acid gas into an ethyl alcohol solution of benzoyl-ecgonine, continuing until the considerable rise of temperature occasioned is followed by the liquid becoming cold. After boiling for an hour under an upright condenser, and evaporating on the water bath, the residue is dissolved in water, filtered, and the filtrate precipitated with soda. The base thus obtained differs from cocaine (benzoyl-ecgonine-methylic ester) only by containing the ethyl (C_2H_5) instead of the methyl (CH_3) radicle. By substitution of methyl for ethyl alcohol in the above process, Liebermann and Giesel have obtained pure cocaine in large, handsome crystals, and which is identical in character, composition, and physiological effects with the natural alkaloid.

The process has been patented in Germany, but the editor of the *American Druggist* justly believes the "patent cannot be controlled, as the process does not require either any special apparatus, or any special intermediary agent or patented ingredient." It is somewhat unfortunate for the patentees that the "cocaine craze" is fast dying out, and there is little doubt but that the present low price will soon be still more depressed. But cocaine, not as a cure-all, but as a valuable remedy in certain classes of affections, has come to stay, and there will continue to be sufficient demand for the article to induce manufacturers to continue its preparation.

Frittilaria or Corronaria imperialis, is a drug that was at one time quite extensively used in medicine, but one of whose chemical properties little or nothing is known. In old botanical works, the poisonous property of this drug is spoken of, and a comparison of its properties with the "Scilla Maritima" is often found.

Dr. K. Fragner (*Ber. d. D. Ch. Ges.*,v. xxi, 3284, from which journal the following is abstracted), has obtained a new alkaloid from this plant which he calls "Imperialin."

Preparation.—The bulbs of the Corronaria imperialis are intimately mixed with calcic oxide, then the mixture is thoroughly dried on a water bath. Extract repeatedly with hot chloroform. The solution is washed with water containing tartaric acid, and the alkaloid is precipitated from the concentrated solution by sodic carbonate. To obtain it pure, recrystallize from hot alcohol. It crystallizes in short, colorless needles, slightly soluble in water, ether, benzene, easily soluble in chloroform and boiling alcohol. Melting point 254° C. The analysis gave: C.=75.3 per cent.; H.=11.11 per cent.; N.=2.6 per cent.; O.=11.47 per cent. From the analysis Fragner concludes the formula to be $C_{35}H_{60}NO_4$. The hydrochloric acid, platium and gold salts also answer to the above formula.

Reactions.—Picric acid gives a yellow flocculent precipitate; potassic bichromate a crystalline yellow precipitate; potassium mercury iodide a flocculent reddish yellow precipitate.

The physiological effects of "Imperialin" pertain to the action of the heart. As yet nothing definite as regards its effect on the human system has been ascertained.—O. Lowman, Ph. D., Cincinnati, O.

UTERINE STYPTIC.

John Adderly, M. D., Skibbereen, County Cork, Ireland, says: It gives me great pleasure to add my testimony to the great value of S. H. Kennedy's Extract of Pinus Canadensis, which I consider a most valuable uterine styptic, seeming not only to possess the power of arresting the uterine hemorrhage, but also to produce a healthy action of the parts. I used it with a patient who had been suffering for a number of years from menorrhagia, depending upon ulceration of the os and cervix uteri, with whom I had tried all other remedies for menorrhagia, lasting during a period of five months almost without intermission. Extract of Pinus Canadensis applied to the os uteri on cotton wool, and also used a lotion, arrested the hemorrhage immediately, and the Aletris Cordial, which was taken internally, helped to invigorate the system and promote a cure which I had at one time considered incurable. I should not wish to be without these remedies in similar cases, and shall continue the use of them in my practice, as I consider they gave most satisfactory results.

SURGICAL SOAP.—Of great cleansing power and antiseptic property.

Oil Almond, sweet,	72 parts.
Sol. Caustic Potash,	12 ,,
Sol. Caustic Soda,	24 ,,
Zinc Sulphocarbolate,	2 ,,
Oil Rosemary, Essential,	9.5 ,,

Mix and allow to stand several days. Then the mass, which is of the consistency of paste is cut into pieces of the desired size, these pieces being placed in suitable vessels and allowed to harden.—*Reverdin* (*D. Met. Ztg.*)

SYRUP CALCIUM PHOSPHO-CHLORIDE with CREOSOTE AND BALSAM TOLU.—For the use of phthisical patients Schoepp (*Ph. Weekbladt.*) recommends.

Calcium phosphate,	3.75	parts.
Distilled water	8	,,
Mix and add		
Hydrochloric Acid, q. s.	(5 to 6)	,,
to solution, then add		
Balsam Tolu,		
Gum Arabic,	āā, 2.	,,
Creosote,	1	,,
Simple Syrup, q. s. ad.	100	,,

One teaspoonful to be taken three times a day, in water. (*Ph. Ztg.*)

USES OF BORACIC ACID.—Dr. Lebovicz, in the *Wiener Med. Presse*, narrates some uses to which he has put boracic acid.

1. Boracic acid acts antiseptically. Every soldier should carry one ounce of it in his overcoat pocket, and a handkerchief cut into two triangles for necessary bandages. Simply sprinkling a wound with finely powdered boracic acid suffices to insure rapid healing. This remedy being odorless and itself absorbing all odors, the author has used it advantageously in abscesses, ulcers of the feet, caries and necrosis of the bones, and in complicated fractures.

2. In anthrax and after the incision of furuncles it acts well when applied directly to the parts. Forming furuncles should be painted several times daily with the following:

℞.

Boracic acid	āā equal parts.
Water	

3. In burns, when the flesh is exposed, it is necessary to be careful with poisonous antiseptics. Boracic acid possesses the advantage of being non-poisonous. He covers the burnt surfaces with a boracic vaseline ointment in the proportion of one to five:

℞.

Boracic acid (finely powdered) - -	20 parts.
Glycerine, - - - -	15 "
Mix and add	
Vaseline, - - - - -	85 "

M.

Apply twice daily.

In severe burns, with fever, the author combated the fever by the internal administration of the following:

℞.

Boracic acid - - - -	4 parts.
Glycerine - - - -	10 "
Water - - - - -	100 "
Syrup of poppies - - -	25 "

M.

Sig.—A teaspoonful every two hours.

4. In skin diseases, such as pemphigus, eczema, rhagades, rupia, and scabies, the results obtained with boracic acid have been most favorable. The formula used was:

℞.

Boracic acid (finely powdered) - -	10 parts.
Glycerine - - - -	20 "
Lanolin - - - - -	30 "

The treatment of scabies consists in first taking a warm bath and then rubbing the affected parts with boracic vaseline salve (first one to two; later equal parts). The duration of this treatment averaged six days. In a case of granular conjunctivitis a cure was effected within forty-five days; a like result was obtained in some cases of pannus. Chronic scrofulous otitis is improved by lukewarm injections of concentrated boracic acid solutions; the application of boracic acid glycerine (one to ten) to stomatitis, aphthæ, or tonsilitis is followed by a curative effect.

5. For coryza:

℞.

Boracic acid (finely powdered) - -	equal parts.
Powdered coffee - - -	

M.

Use as a snuff.

6. In some cases of chronic endometritis with leucorrhœa and sterility, the uterus was filled with powdered boracic acid, and then a boracic acid tampon applied. After removing the tampon, the cavity

was irrigated with a boracic acid solution. A cure was generally affected after a three or four months' treatment, in some cases conception following.

7. In cystitis the bladder was washed out (in acute cases) with a three per cent. boracic acid solution, and in chronic cases this treatment was followed by the internal administration of from forty-five to ninety grains of boracic acid.—*Deutsche Med. Wochenschrift*, January 24, 1889.—*Med. News.*

MEANS OF DISGUISING THE BITTER TASTE OF QUININE (Engel).—

℞.

Sulphate of Quinine - - -	1 part
Hydrochlorate of ammonia - - -	1 "
Pulverized liquorice - - -	1 "

Mix the last two substances intimately after they have been reduced to powder, then incorporate with them the quinine salt and make an electuary with a little syrup or honey.—*La Gazette Medicale.*

ALETRIS CORDIAL IN THREATENED ABORTION.—M. D. Makuna, M.R.C.S., Eng. Lic. Med. University, Bombay, 1876, Trebeebut, Rhondda Valley, South Wales, says: I have much pleasure in expressing my satisfaction with the results I have obtained by the use of Aletris Cordial. One of my patients who had miscarried three times previously took Aletris Cordial during the last three months of pregnancy, and was delivered of a fine, healthy boy. I ordered it at her own solicitation, as she expressed so much ease and comfort after the use of the first bottle. I am now giving it to two more patients who have miscarried several times before, and I am in hopes of good results. I consider it a valuable addition to the Pharmacopœia, on account of its antispasmodic and nerve-tonic properties, and I should not like to go without it.

DR. BOXALL (*Medical Press*) calls attention to the incompatibility of certain antiseptics when mixed. He has ascertained that mixtures of corrosive sublimate and iodine, iodine with carbolic acid, and carbolic acid and olive-oil produce chemical changes which materially affect the properties of the original constituents. He found, moreover, that soap and glycerin are, as a rule, bad vehicles for antiseptics. Perchloride of mercury, iodine, salicylic acid and permanganate of potassium are changed or precipitated by admixture with soap.

SULPHATE OF PHYSOSTIGMINE IN CHOREA.—Reiss has recently recommended hypodermatic injections of the above preparation in chorea, and has seen in some cases a disappearance of the symptoms in five or six days. The injection of one milligramme of physostigmine is made twice a day. In certain grave forms of the disease it is useless; in others, on the contrary, it gives most happy results.

Reiss has also tried it in tetanus, paralysis, agitans, sclerosis of the medulla and cord, posthemiplegic chorea of Charcot, in a case of hysteria in man, accompanied with great excitement and a remarkable increase of the reflexes. The results have been very satisfactory.—*Journal de Médecine.*

Mixture for Whooping Cough (J. Simon).—

℞.

Tincture of belladonna,	
Alcoholic tinct. of aconite root.	āā p. e.

Ten to thirty drops of the mixture in the twenty-four hours.—*Journal de Médecine.*

Compound Syrup for Whooping Cough (Cadet de Gassicourt).—

℞.

Syrup of belladonna,	50 grammes.
Syrup of tolu,	150 "

A teaspoonful represents 1 gram. .25 of the syrup of belladonna.—*Journal de Médecine.*

Nasal Insufflations (Moizard's Mixture).—

℞.

Pulv. benzoin,	
Bismuth salicylat,	āā 5 gram.
Quinin. sulph.,	1 "

From three to five insufflations in the twenty-four hours, in each nostril, with a pinch of this powder insufflated by the aid of a caoutchouc tube.—*Journal de Médecine.*

OBITUARY

Dr. F. M. Urquhart died at Evansville, Ind., on February 14, æt. 33 years. He was a Virginian by birth. He was an inspector under the Maine Hospital Service and did faithful service last year among the yellow-fever sufferers of Jacksonville. It is thought that his overwork and exposure at that time contributed to the fatal issue of his last illness, which was pneumonia.

MISCELLANEOUS.

Treatment of Shock.—In some remarks of the treatment of shock, in the *Therapeutic Gazette*, Dec., 1888, Dr. H. C. Wood says that the most characteristic symptoms of shock are the great loss in the force of the pulse, the height of the arterial pressure, and the extraordinary fall of the bodily temperature. He suggests that the unconsciousness which comes very late in shock is due to failure of blood-supply to the brain and the lowering of the temperature of the cerebral mass. The chief cause of the heart failure is the lack of resistance to its contraction caused by the vaso-motor paralysis which also accounts for the great fall in temperature.

If these physiological views are correct, the two chief indications for the treatment of shock are to overcome the vaso-motor paralysis and to maintain the bodily heat. Stimulation of the heart is, of course, useful, but such stimulation will amount to very little if there is no re-awakening of the resistance to the heart action; and if such resistance is aroused in any individual case, it is almost certain that it in turn will re-excite the heart.

With regard to the propriety of giving liquid food in cases of shock, Dr. Wood points out that in severe shock digestion must be in great part, if not altogether, arrested; and the advisability of putting food into the stomach seems to him very doubtful. Raw meat-juice, or better, beef essence, highly seasoned and given hot, is a stimulant rather than a food, and may achieve good at a time when so simple a true food as milk might be actually dangerous.

He advises for the maintenance of body-heat either the hot bath at 110° Fahr., or the hot water bed. The latter is almost as powerful, he says, as the former, and is free from its objections. If an ordinary water-bed is filled three-quarters full of water at a temperature of 130° or 140°, and blankets spread over it, and the patient laid thereon, his body will sink down so that it will almost be surrounded by the heated mass. If the bed is well covered with blankets many hours will be required for the cooling of the water, so that the body heat can be kept up for a length of time without the patient being disturbed. Dr. Wood says he has found this method of heating the body in collapse extraordinarily efficacious by practical trial.

With regard to the choice of medicines in surgical collapse, he reiterates his well-known opinion that as the action of ether and of alcohol is practically identical, the use of the latter as a stimulant in collapse from the former is improper.

In shock unconnected with anæthesia, atropine hypodermically is very valuable by virtue of its action as a vaso-motor stimulant. If ergot is used, it should be in the form of the official aqueous extract, five grains dissolved in ten minims of water with two minims of glycerine and ½ minim of carbolic acid. Digitalis, he says, is strongly indicated in shock, not only on account of its power over the heart, but because it appears to be a powerful vaso-motor stimulant. It might be injected directly into a vein in extreme cases; in this case its effect would be immediate but very temporary. Dr. Wood says that he is not aware that anyone has ever proposed the intravenous use of the drug in collapse or shock, but he commends it for trial as practically free from danger, unless overdoses are given, and says it offers the possibility of a brilliant and novel result. Five minims of the tincture diluted with a drachm of distilled water might be *slowly* injected, and repeated or increased *pro re nata*.

The Treatment of Croup.—While it would be interesting to investigate the pathology and etiology of croup, and indicating where false croup ended, and true croup began, and the relation, if any which the latter bears to diphtheria, it is doubtful if such a discussion would reach those for whom this brief note is intended. It will best serve our purpose, therefore, if the remarks are confined to suggestions which are practically new, and it will best serve the interests of our readers in this instance, if those suggestions can be carried out without interfering with the treatment usually adopted. Practically, the same rule applies here as in the case of the remarks offered upon the subject of tonsilitis. No physician would be willing to risk the life of his patient simply on the recommendation of a paper in a medical journal, especially when he has defined his own method by frequent trial, but there comes a time in the treatment of croup when all remedies have failed, and there is but the chance afforded by tracheotomy or intubation, both of these operations being quite formidable, especially to those living in the country. Although not offering this remedy as a last resort previous to surgical interference, it may be used, and that, too, with marvellous benefit, when nothing but the operation promises relief. The story is told of an old practitioner who was exceptionally successful in the treatment of this malady, and people who heard of his wonderful success travelled long distances to purchase the magic pills, which, it is said, were nothing more than ordinary two grain quinine pills. In the early stages of croup, say in a child from two to five years of age, a single two grain quinine pill given when it is gasping for breath at about two o'clock in the morning will be followed almost immediately by relief. In the course of fifteen minutes, the voice will return, the parents will be relieved of their anxiety, and the doctor can go home and rest contented that there will be no more trouble in that family for the next twenty-four hours.

Shall we leave instructions that the child shall be given ipecac during the day to the point of toleration, with an extra dose along in the early evening to make sure that there is no accumulation of phlegm in the throat? However much that custom may have been admired, it must eventually give place to milder methods, and that is one of the objects we have in the preparatian of this paper. Whether croup be regarded as a disease due to the presence of microörganisms or not, makes no difference; the treatment of the disease is based upon the fact that we have to deal with an abnormal secretion, and we have a remedy in the sulphide of calcium which will exert a powerful influence upon its development. Instead, therefore, of ordering the nauseating ipecac we should give a small portion of this comparatively harmless remedy. In the worst cases one-tenth of a grain hourly will accomplish all that could be wished for; larger doses appear to exert no better effect than the smaller ones, probably because of the nauseating effect set up by their contact with the delicate mucous membrane of the stomach. As a rule the first signs of oncoming croup may be satisfactorily overcome by the measures suggested, and for the general class of such cases it will be necessary only that the little patient should continue the treatment for a few days or at most a week. The latter time should be insisted upon when there has been a tendency to the development of this affection by repeated attacks, and, while the plan suggested will have a tendency to interfere, to some extent, with the trips of the doctor, it will preclude the necessity for them at unseemly hours in the morning, and besides will greatly enhance his reputation for the successful treatment of this disease. And this is practically the chief end of the physician; to treat disease successfully, "*cito, tuto, et jucunde*"—quickly, safely, and pleasantly.—*Medical Register.*

INVALID COOKERY IN THE FIRST CENTURY.—In pleurisy the practice of the Roman physicians in the reign of Tiberius (A. D. 14–37) was to keep the patient on food as light and demulcent as possible (*cibus quam maxime tenuius et lenis*), principally on nutrient drinks (*sorbitiones*), of which barley gruel was a favorite, or, equally so, "broth in which leeks and a young poultry-cock had been boiled together" (*jus in quo porrus cum pullo gallinaceo coctus sit*). Readers of Lockhart's "Life of Scott" must remember the famous forty-first chapter, in which the author refers to Sir Walter's favorite dishes, "such as Scotland borrowed from France before Catherine de Medicis brought in her Italian *virtuosi* to revolutionize the kitchen like the court. Of most of these he has in the course of his novels found some opportunity to record his esteem. But, above all, who can forget that his King Jamie, amidst the splendors of Whitehall, thinks himself an ill-used monarch unless his first course includes 'cocky-leekie.'" Mr. Lockhart, who was a well-read scholar, should have known that the savory broth referred to was as little French as it was Scottish, but was an important article in the invalid *menu* of the first century, if not indeed much earlier.—*Lancet.*

THE following letter was sent to Dr. J. M. Kennedy, House Physician to Charity Hospital, by a patient in one of his wards. The man suffered from chronic lead poisoning. We give the letter unaltered, as an example of acute observation on the part of a man entirely without medical education:

DR. KENNEDY,

Dear Sir: Anyone who has suffered from a severe attack of lead paralysis must be necessarily, I think, more conversant with its causes and effects than it is possible for any one else to be who has not been afflicted with the disease. Having suffered from lead paralysis myself, I deem it not amiss to state what are, I think, the causes of the disease. Many have an idea that the sole cause of the disease comes from the contact of the lead with the hands, in mixing it and using it. That may be one cause, but I know it is not the *only* cause, because I contracted the disease when I neither mixed the lead for paint, or handled it with my hands. In order to make a smooth surface on work that is to be painted—*even* what has already been painted—sand paper or other material is used for rubbing. By this rubbing dust is produced which is inhaled by the persons within inhaling distance. This dust is nearly if not altogether lead. For inside work the lead is mixed with turpentine mostly, from the evaporation of which the air becomes impregnated with particles of lead and is also inhaled. The inhalation from the evaporation of paint when mixed almost wholly with turpentine first causes a dizziness in the head, sickness of the stomach, lassitude and general weakness. It also causes the urine to change its color to blood red; also inability to retain it for any length of time. These are the symptoms which precede lead colic generally.

I have noticed that lead colic invariably precedes lead paralysis, and that lead paralysis does not always follow lead colic; for I have known men to have colic who were never paralyzed. Of the different kinds of colic I believe that lead colic is the worst type because it is the most painful. So painful is it that the suffering from it sometimes produces a feeling similar to insanity. Swelling of the stomach is not one of its symptoms, nor does liquor or hot drinks relieve the pain. Costiveness of the bowels is the immediate cause of lead colic. After being dosed with most all the cathartics and laxatives that there are, a cure was effected by hot baths and a solution of potash and sarsaparilla. Before paralysis set in I was attacked with a nervous feeling, weakness in my shoulders and wrists, so that I had great difficulty in working overhead, and became entirely unable to draw a straight line. A drink or two of liquor would lessen the nervousness, but when its effects had passed away, leave me worse than before. When paralysis sets in the whole system is much weakened, and the parts of the body, or arms, where the strain comes, are the parts first affected by paralysis. Weakness of the wrists, crippling of the fingers, inability to lift the arms to an upright position are the effects of lead paralysis.

I think a man's system may be entirely free from lead poisoning, so that he may be feeling quite healthy and yet he remains paralyzed. In *this* condition a man may have sufficient strength to handle heavy weights, and at the same time be unable to grasp or handle light ones. So that at this stage the strange anomaly presents itself of a man being strong and healthy, and yet unable to accomplish anything at his business. I merely give this history of the disease as I have experienced it in my own case, and not from a desire of any change of present treatment, as I am perfectly satisfied with it.

Very Respectfully Yours,
Wm. Flood, Ward 6.

Charity Hospital, Blackwell's Island,
New York, February 1, 1889.

The Hyderabad Commission on Chloroform.—In a report of the recent prize distribution at the Hyderabad Medical School, which appeared in our issue on February 23d, some remarks of Surgeon-

Major Lawrie, M D., M.R.C.S., of the Bengal Army Medical Service, are mentioned which deserve some comment. We learn that a commission had been appointed to investigate the action of chloroform, and that the result of the researches made upon prairie dogs was that these animals were killed from respiratory failure, and in no case did cardiac syncope occur directly. Unfortunately Mr. Lawrie contents himself with bare statements of results, adding that these results tally with his own experience, which he believes to be uniquely large. Mr. Lawrie, as a disciple of Simpson and Syme, arrives at conclusions consonant with the teaching of those great clinicians, but utterly at variance with the experience alike of experiment and practice as carried out in Europe. We should require more than the scanty statements of experiments performed upon dogs—notoriously non-susceptible to chloroform syncope—before we could accept the conclusions of the Hyderabad Commission when they appear to go in the very teeth of those at which the Commission appointed by the Royal Medical and Chiurgical Society and by the British Medical Association arrived, and, further, are opposed to the careful and painstaking experiments of such scientifice observers as Snow, Claude Bernard, McKendrick, and others too numerous to mention, All those who are familiar with chloroform are well aware that syncope, when primary, as a rule supervenes in the initial stages of inhalation, while secondary syncope, due to respiratory embarrassment is the result of accumulation of chloroform in the blood leading to paralysis of the medullary centres, and occurs in a late stage of administration. The primary syncope it is rarely, if ever, possible to induce in dogs, although, unfortunately, it is this form of chloroform heart failure which does occur in human beings, and which it is almost impossible to remedy. While welcoming the attention paid to the subject by the Hyderabad Commission, we cannot but feel that, should the Commission inculcate a disregard of the heart as a factor in chloroform dangers, it will do harm and provoke a slipshod carelessness in the use of that valuable anæsthetic, which must in the long run do damage to the cause the Commission has espoused.—*Lancet.*

DR. W. W. VAN ARSDALE in an able editorial on the "Present Aspect of the Iodoform Question" in the *Annals of Surgery* for March, gives the following conclusions after careful consideration and citation of over seventy authorities:

"But if we cannot, with any satisfaction, theorize upon the action of iodoform in wounds, we can at least with some show of reason deduce a few practical conclusions from the mass of experimental evidence before us. Since we know that iodoform may contain germs, we should stirilize it before use; this may be done by washing it in sublimate solution. If applied with a brush to a wound the brush should not be used again. A powder-blower for iodoform should be used in a pure atmosphere only.

We will not look for an action of iodoform at a distance, an action throughout a large wound when only a portion of it is in contact with the powder, nor at the depth of a wound when only the surface is covered with iodoformized gauze.

We will not use iodoform during a primary operation in uninfected tissues since we know that septic infection will not be counteracted by the simultaneous application of iodoform. But we will esteem iodoform for its action in preventing the subsequent infection of wounds, both during the change of dressings and in case of accidental exposure. We shall still continue to use it sparingly in granulating wounds, as we cannot dispense with its property of favorably influencing the granulations, always taking care in suppurating wounds to prevent retention by adding protective over the iodoform (v. Mosetig-Moorhof). In wounds already septic we may use iodoform as extensively as possible, endeavoring to bring the powder into contact with every part infected. We shall not expect it to influence already existing septicæmia or pyæmia.

The greatest benefit will be derived from iodoform by its use in operations about the mouth, vagina and rectum, where, owing to its property of destroying the ptomaines it acts as a powerful deodorizer. For the same reason its use on putrid surfaces is to be recommended.

On the other hand, the poisonous qualities of the drug, its disagreeable odor, its irritating effect, when suspended in the air, on the mucous membranes of the eyes and nose, prevent its extended use; and since we have found in tartaric and other vegetable acids a means of rendering our sublimate solutions more active upon albuminous liquids, and in creoline (in strong solutions, 5 per cent.) a means of keeping granulations in good condition, we are able to dispense with iodoform in all but its influence against the ptomaines, which is of so much practical value to us in our treatment of wounds of mucous membranes, and which cannot be sufficiently replaced by chlorine solutions of charcoal powder.

In conclusion we may glance at the specific action of iodoform upon other than septic germs. We have already seen that erysipelas is not in any way influenced by the presence of iodoform. Von Mosetig-Moorhof admits that erysipelas may attack wounds under iodoform dressings, although he denies that it attacks iodorformized wounds more frequently than simply covered ones.

Anthrax has been referred to. After the experiment repeated above, no surgeon will think of combating this infection with iodoform alone.

Of the gonorrhœ-coccus Welander asserts that iodoform does not kill it, while Kreis affirms that it does so.

The question of the antitubercular action of iodoform still remains open, although this question was one of the first ones raised. The French Congress of Surgeons of this year (1888) did not occupy itself to any extent with this question. In last year's very important publication of papers on this subject by Verneuil much attention was given to it. Raymond and Arthaud failed to get satisfactory evidence of the specific action of the drug, while Verneuil and Verchère believed to have established it. Roosing's paper is worthy of note as reporting a large number of experiments upon animals with tuberculous virus and iodoform. This author concludes that iodoform is powerless as an antitubercular agent. Clinically, however, Bruns and Nauwerck have satisfactorily demonstrated its healing influence upon cold abscesses, and in these cases the use of iodoform in ether deserves our confidence."

SPEAKING of Charcot reminds me that he has been using a new treatment for ataxia. It is simply suspension according to Professor Sayre's well-known method, which does not need to be described to your readers. It seems that some five years ago a Dr Motchoukowsky, of Odessa, noticed the good effects of suspension in tabes. He had applied a Sayre jacket to a patient who not only was ataxic but also had scoliosis; there was at once a considerable amelioration in all the spinal symptoms, and it has led to an extensive use of suspension in ataxia; quite a number of patients have derived the greatest benefit from the treatment, including a girl who had Friedreich's disease, for which she was treated by Dr. Blocq, and who is now walking and doing well. Other ataxics who had to be carried to the hospital for treatment now walk there with ease, and when we know that the opinion of such men as Charcot is that it is useless to give mercury and iodides, or indeed to employ any other treatment in such cases, the value of such simple treatment can not be overestimated.

From experiments made by M. Loewenthal, in Professor Cornil's laboratory, it would seem that we have in salol a remedy for cholera. It had, indeed, been indicated by M. Sahli, when he first introduced the drug some time ago. M. von Nencki reports to the Academy of Sciences that where it is thought best to submerge the organism, and more particularly the intestinal tube, in a substance that is strongly antiseptic and at the same time not hurtful, the salicylate of orthokresol or of parakresol may be used in place of salol with certain advantages.—*Paris Letter*, *N. Y. Med. Journ.*

HEART SOUNDS WHEN THE BREATH IS HELD.—Will you allow me to caution practitioners against what I believe to be a not uncommon source of error in connection with certain conventional modes of examining the heart? The patient is told to "stop breathing." This he does with a more or less forcibly inflated lung, the result being that the contact and impulse elements of the heart-sounds—and we too often forget how large these elements really are—become exaggerated. In addition to this, the lung being not infrequently distended by a very deep inspiration, taken hurriedly at the moment when the patient is told to "stop breathing," the mechanical obstacle offered to a free passage of blood through the vessels of the lung is especially great. What the listener hears when the patient's breath is held will not be the cardiac sounds, simply unmasked by the suspension of the pulmonary sounds, but the former exaggerated and distorted by the accidental physical conditions of the lungs and the heart, and their surroundings in the thorax; which conditions are abnormal, for a state of forced, or even fixed, inspiration is not normal, and it *modifies* as well as intensifies the heart-sounds sensibly, as any close observer may detect. The very frequent appearance in the consulting room of cases of supposed heart disease, in which, when examined under ordinary conditions, nothing can be discovered to support the hypothesis of disease, may perhaps be to some extent accounted for by the method of examining to which I have ventured to object.

Another point of moment is the position of the patient. I do not think any physician is justified in affirming the existence of a morbid state until, or unless, he can satisfy himself that the known effects of change of position on the several performances of the cardiac mechanism are produced. It is a matter of very great concern that the number of persons living lives of misery because they have been told that "there is something wrong with the heart," is of late largely increased and increasing; while no inconsiderable proportion of such persons have, in fact, nothing whatever the matter with their hearts beyond, perhaps, some sympathetic disturbance. I am not now thinking of the scare produced by "anæmic" sounds, which, by the way, are too often misconstrued even by expert and experienced examiners, but of hypothetical "valvular disease" in hearts which are in no way organically affected, or even the subjects of exceptional muscular debility.—J. Mortimer Granville, in *The Br. Med. Jour.*

A CASE OF TRANSPOSITION OF ALL THE ORGANS (W. W. Gannett, M.D., Pathologist to the Boston City Hospital).—CASES of transposition (situs transversus) of the thoracic and abdominal organs are of such extreme rarity that the report of this case, with the demonstration of the specimens, may be of interest.

The picture that one gets in viewing the organs *in situ*, the case of transposition, may be called the mirror-picture of the normal position. For if one imagines the thoracic and abdominal organs of the normal individual exposed to view, and then a mirror held over the body and the picture in the mirror examined, it will be at once obvious that not only the apparent position of the organs will be reversed, those normally lying upon the right side apparently upon the left; but also the shape of the organs will be exactly the reverse of the normal; there being the same difference as between a right and left shoe.

The individual in question, an Italian about twenty-five years of age, of good development externally, entered the Boston City Hospital in a critical condition and died there, twelve hours after admission, of cerebro-spinal meningitis. Physical examination before death was restricted by the patient's condition; the heart was noted as found on the right of the sternum, and there was an unusual area of flatness in the usual situation of the spleen; otherwise, previous to the autopsy nothing was known of the condition to be described.

Circulatory system: The heart was in the right half of the chest cavity. Its shape was exactly the reverse of the normal: the right ventricle lying to the left, the left ventricle to the right. The conus arteriosus of the right ventricle was directed upwards and to the right instead of upwards and to the left. The pulmonary artery was directed upwards and to the right. The aorta was directed upwards and to the left, then arched backwards and to the right; consequently the ascending portion of the arch came to the left, the descending to the right. The innominate artery was given off from the ascending portion of the arch to the left, and the left subclavian and left carotid were given off from the innominate. The right carotid and right subclavian arteries were given off directly from the descending portion of the arch on the right. The aorta lay to the right of the vertebral column, and the cava superior and cava inferior to the left of the vertebral column. The left spermatic vein, instead of emptying into the left renal vein, emptied directly into the inferior cava, whereas the right spermatic vein emptied into the right renal vein instead of into the cava.

The right lung was two-lobed, and the lower anterior tip of the upper lobe ended in a distinct lingula. The left lung had three lobes.

The liver, in shape, was the reverse of the normal, and was situated in the left half of the abdominal cavity, exactly opposite to where it should lie.

The spleen was upon the right side, just under the diaphragm, in the same relative position that it normally occupies in the left side.

The cardiac end of the stomach was upon the right, the pyloric upon the left. The greater curvature was to the right.

The duodenum was upon the left; the head of the pancreas attached to it and consequently to the left, whereas the tail of the pancreas was situated far to the right and in contact with the spleen.

The cæcum lay in the left of the iliac fossa; the ascending colon was to the left; the descending colon and sigmoid flecture to the right.

At the time of the autopsy the right testical hung lower than the left.

Whether the individual was left-handed, and whether the centre of speech was in the right half of the brain, are points which nothing can be known.

Cases of the transposition of the organs are of clinical interest, as showing a heart upon the right side, without signs of a sufficient cause for displacement in the left side of the chest. Confirmatory evidence is to be attained by finding by percussion that the liver is upon the left, the spleen upon the right side,—although it is possible to have the thoracic organs transposed without a corresponding transposition of the organs in the abdomen.

Had this individual had an inflammatory process about the vermiform appendix, the signs would have been found in the left inguinal region, and from the situation might have led to error or confusion in the diagnosis.

MEDICAL NEWS AND NOTES.

DR. DUMOULIN, a celebrated and most experienced physician, on his death bed, when surrounded by three of the most distinguished medical men of Paris, who were regetting the loss which the profession would sustain in his death, said: "My friends, I leave behind me three physicians much greater than myself." Being much pressed to name them—each of the three doctors supposing himself to be one of them—he answered, "Water, exercise and diet."

THE French medical jurists still recommend death by decapitation. In an elaborate work, entitled, "La Mort par la Decapitation," by Dr. Paul Loye, the following are given as its advantages: It kills instantly, painlessly, and surely—*tuto, cito et jucunde.* There can be absolutely no return of consciousness after the blow falls. The separation of the head and trunk offers a public proof of death. In all other procedures, says Dr. Loye, and in death by electricity in particular, the simulation of death is possible.

THE Ohio Senate has passed a bill prohibiting physicians from advertising, and fixing a license fee of $100 a month for all non-resident practitioners practicing in the State.

NEW ANTIDOTE FOR MORPHINE.—Bokai of Klausenberg believes that the best antidote for morphine is picrotoxin. The two substances act in an opposite manner on the respiratory centre, morphine paralysing its action, while small doses of picrotoxin increase it. As in poisoning by morphine death occurs from paralysis of the respiratory centre, and as picrotoxin hinders this paralysis, it follows that picrotoxin is likely to be of real use in morphine poisoning. In morphine poisoning, diminution of the blood-pressure plays an important part, but picrotoxin enjoys the property of stimulating the vaso-constrictor centre of the medulla and thus counteracts the effect of the morphine. Once again, the action of these two substances on the cerebral hemispheres is also of an opposite character. As atropine, the only known antidote of morphine, cannot be administered in large doses, it is certainly desirable that other means of combating morphine poisoning should be sought for. Bokai thinks that picrotoxin may be useful as a substitute for preparations of nux vomica, and he also believes that it will be found of value in preventing chloroform asphyxia.

THE death is announced of the Rev. J. G. Wood, F.L.S., the well-known naturalist. The wonders and the beauties of nature found in him an enthusiastic and intelligent exponent. No one, perhaps, in the present age was more diligent and successful, by his writings and lectures, in fostering, especially in the minds of the young, the love of the study of living things. Mr. Wood was the son of a surgeon at one time lecturer on chemistry at the Middlesex Hospital, England.

A German edition of Dr. St. John Roosa's *Treatise on the Ear* has just been published in Berlin.

THE EIGHTH CONGRESS OF THE GERMAN SURGICAL SOCIETY will be held in Berlin on April 24-27. On the first day Professor von Esmarch will open a discussion on the "Etiology and Diagonosis of Carcinoma, especially of the Tongue and Lips." after which there will be an exhibition of patients that have survived for more than three years operatious for carcinoma of the tongue, rectum and stomach. The permanent secretary of the Congress is Professor Dr. Gurlt, W., Keith-strasse No. 6., Berlin.

LITERARY INTELLIGENCE.—Messrs. Longmans and Co., announce the early appearance of the following works:—"The Diseases of Children, Medical and Surgical," by Henry Ashby, M.D., and George A. Wright, B.A., F.R.C.S.; a "Handbook of Cryptogamic Botany," by A. W. Bennet, M.A., B.Sc., F.L.S., Lecturer on Botany at St. Thomas's Hospital, and George R. Milne Murray, F.L.S., Natural History Department, British Museum.

MEDICAL ANTISEPSIS.—From a lecture given at the Hospital St. André by Dr. Artigalas, so competent on all micro-biological questions, the following conclusions are noted:—

1. The body normally manufactures ptomaines. They can accumulate and produce some accident when the oxygen which should destroy them is deficient or the channels of elimination are obstructed. From this the two great physiological principles of antisepsis are evolved: (*a*) to maintain normal oxygenation; (*b*) to keep the secretions normal or to restore their equilibrium.

2. According to the constitution of the microbian illness, it is either local or general. The morbific element thrives in certain regions and causes there the formation of toxic products.

Therefore: (*a*) the necessity to find a diffusible antiseptic, as is sulphate of quinine in intermittant fever: (*b*) to change the surroundings where the microbes flourish, as in the intestinal antisevsis of typhoid fever; (*c*) to make, as far as possible, secondary channels for elimination of the microbes and ptomaines,as in nephritis of scarlatina and of cholera.—*Revue de Thér.*

CEREBRAL LOCALIZATION.—Dr. Boweret has reported an interesting case of total loss of sight caused by the embolic softening of the cortical surface of the inner wall of both occipital lobes. It is probable that the softening resulted from an embolism in the posterior cerebral arteries. Loss of memory and confusion of ideas, which also occur in hemiplegia, may be attributed to cerebral œdema. However that may be, in the case referred to, they can only be looked upon as accessory symptoms, and the important feature to be noted is the sudden and complete blindness immediately following an alteration of the cortical substance on the internal surface of the occiptal lobe. In forty cases observed and published by Seguin in the "Archives of

Neurology," only four can be considered indentical with this, but in each case the lesion only occured on one side, so that there was never complete blindness, but only hemiopia. If absolute blindness coexisted with a healthy condition of the external surface of the occipital lobe, it would tend to prove that the origin of luminous perceptions must be localized exclusively on the internal surface.

THE death is announced of Dr. Francis B. Kane, Professor of Clinical Medicine at the University of California. Dr. Kane died from pneumonia after five days' illness. He graduated at the Queen's University, Ireland, in 1872, and for the past fourteen years had practiced in San Francisco, where he was much esteemed.

TABES DORSALIS AND EXOPHTHALMIC GOITRE.—From time to time cases occur presenting many of the symptoms of locomotor ataxy in combination with the symptoms of Graves' disease, and questions naturally arise as to the nature of this association. Plainly the concurrence may be simply fortuitous, the two diseases evolving separately, and being due to their own causes. But the question has to be answered whether it is possible for the tabetic nerve lesion to produce the exophthalmic goitre in virtue of some slight transgression of its usual limits. Evidence exists, both clinical and experimental, tending to show that lesions about the restiform bodies may produce the triad of symptoms characteristic of Basedow's disease. In cases of the association of the two diseases, have the sclerosis and degeneration on which the tabes depends exceeded their usual boundaries, and damaged those nerve cells and fibres which are concerned in the production of the tachycardia, enlarged thyroid and protruding eyeballs.

A FREQUENT CAUSE OF BILIARY CALCULI IN WOMEN.—Marchand finds in womens' stays a frequent cause of the formation of gallstones. The pressure exerted by these articles of dress on the liver is transferred to the gall bladder and its ducts. This pressure is not uniform; it is more constant by day, but decreases at night, or exerted only when the form of the thorax is already altered by pressure. This pressure causes the retention of the bile in the gall bladder. During the daytime the bladder tends to empty itself; in the interval of digestion, and during the night, there is a tendency to refill itself, If the daily evacuation of this organ is prevented, or only imperfectly effected, there is a recurrance of stagnation of bile, and consequent disposition to the formation of gallstones.

THE CARDIAC CHANGES IN CHRONIC BRIGHT'S DISEASE.—In a valuable paper (*New York Medical Journal*) Dr. Loomis discusses the well-worn topic of the relation between cardio- vascular changes and chronic Bright's disease. He gives a table of forty cases, in which the details of the pathological lesions are summarised, and concludes that as a rule, the more extensive the obliterating changes in the renal arterioles, the greater degree of cardiac hypertrophy; and that if such hypertrophy be absent, the general nutritive conditions are faulty.

He clearly describes the subsequent occurrence of cardiac degeneration and failure. He also, from the study of a large group of cases of chronic valvular disease, finds that in a not inconsiderable proportion the secondary renal disease is sufficiently pronounced to be considered as coming under the category of Bright's disease. At the same time he holds no narrow view of the nature of Bright's disease, regarding it "as a constitutional disease, in which the repair and waste in all the tissues of the body are imperfectly carried on; and in one way or another the kidney changes are expressive of other visceral and arterial changes, which, combined by the kidney lesion, make up the clinical and pathological history of the disease."

A NEW AND ONLY WAY OF RAISING THE EPIGLOTTIS.—A New and Only Way of Raising the Epiglottis is the rather startling headline of a paper read before the Medical Society of London, and published in the *New York Record* of November 24, 1888. The author is Dr. Benjamin Howard, who has been investigating this subject for more than twenty years. For a long time he accepted the teaching that in apnea the epiglottis falls backward and closes the glottis, that the only way that the epiglottis can be elevated is by means of the tongue; as the tongue is brought forward the epiglottis is moved upward. Unless this is done respiration is prevented and the result is fatal. The author believes that, contrary to general belief, traction of the tongue does not and cannot raise the epiglottis. After many experiments he now asserts that by sufficient extension of the head and neck the epiglottis is instantly made completely erect. In order to make complete extension of the head and neck the patient should be brought to the edge of the bed or table, one hand should be placed under the chin and the other on the vertex, and the head should be steadily but firmly carried backward and downward; the neck will share the motion which must be continued until the utmost possible extension of both head and neck are obtained. In this way the epiglottis is certainly and easily raised.

The investigations of Dr. Howard merit attention. If this method will produce the results which he claims, it will be almost as much of an addition to our resources in cases of sudden danger to life as is the now well known procedure of lowering the head in cases of threatened death during the adminstration of anesthetics.

MORTALITY FROM INFANTILE SYPHILIS.—In a paper on Mortality from Infantile Syphilis at St. Lazare, communicated to the Obstetrical and Gynæcological Society of Paris, M. Le Pileur, taking St. Lazare as typical of the population of any town, finds that 14 per cent. of the pregnant women there are syphilitic, and that of every hundred births (including abortions) from syphilitic mothers, only seven at the most survived the first months of extra-uterine life. By rule of three, M. Le Pileur therefore estimates that, of the 64,657 infants born annually in Paris, 9,051 are of syphilitic mothers, and 8,418 of these are either abortions or stillbirths. In fact, that 13 per cent. of the possible infants perish annually from congenital syphilis alone! The *Gazette Medicale* rightly protests against such statistical vagaries.

THE rumor that the Jefferson Medical College was opposed to the passage of the bill to appoint a Board of Medical Examiners is said to be false.

A. C. BERNAYS, A.M., M.D. (Heidelberg); M.R.C.S. (England); Member German Society of Surgeons, Berlin; Professor of Anatomy, College of Physicians and Surgeons, St. Louis, Mo., etc., says: I take pleasure in stating that I have given campho-phenique ($C\ H_{11}O$) a fair and impartial trial. As a dressing for wounds, I find that it has a powerful antiseptic, and also a slightly anæsthetic effect. I have used it pure as a dressing for felons and carbuncles, and especially for erysipelas, where I find its effect is most specific. In cases of erysipelas I have seen pain and fever disappear after a single application, in a most remarkable manner. I recommend it as the best form in which a compound phenol has yet been brought before the profession. As a parasiticide it is *facile princeps.*

A WOMAN, on whose body an inquest was recently held in London, is described as having been the greatest chlororoform taker in the world, customarily taking as much as a pint a day. The various organs of her body were described as being healthy.—*Jour. Am. Med. Assoc.*

DR. DRECKMANN, of Vienenburg, reports that he treated a case of lepra mutilans by "Unna's method"—painting with pyrogallic and chrysorobic acid salves, and salicylcreasote plaster-mull, and giving ichthyol internally. Most extraordinary improvement followed, and eventually the patient became practically well.

EXCISION OF THE LOWER JAW.—Dr. Rodolfo del Castillo has excised the inferior maxilla by a method which, he thinks, offers several advantages over the operations known to him under the names of Graefe, Mott, Cussak, Cloquet, Velpeau, Lisfranc, Chassaignac, Blandin, Argumosa, Creus, and others, as a very small scar is left, and the chances of hæmorrhage and of subsequent suppuration is far less. The method consists essentially in passing a quadrangular trocar round the bone as close to it as possible, and by means of the canulla running a chain saw behind it. By working the saw the bone is divided. A similar process is repeated on the other side and the excised portion dissected carefully from the soft parts, which are then stitched together and allowed to heal up.

THE *Century* for March contains an article on the uses of electricity, that is of great interest to sanitarians. The use of the electromotor enables manufacturers to build their establishments on high grounds away from the proximity of water-courses and by lessening the weight of machinery in the buildings admit of more windows, giving better light and better ventilation.

Dr. Karl Kilcher, Prague, swallowed, as an experiment, some blood of a man who had died from typhus fever. The death, from septicæmia, of this enthusiastic devotee of science is now announced.

Dr. A. K. Bond, of Baltimore, says that when death occurs in phlegmasia alba dolens, it is generally due to the results of emboli washed from the veins of the leg. To avoid this he advises that the limb be kept absolutely free from either active or passive motion.

Constipation a Cause of Catarrh.—Dr. N. R. Gordon, of Springfield, Ill., thinks (*Atlanta Med. and Surg. Jour.*, Feb., 1889) that perhaps 90 per cent. of cases of naso-pharyngitis are due to constipation. If the constipation is obstinate, the catarrh is also, and only yields to treatment when the former has been relieved. The forms of diet that produce constipation consist in large quantities of rich and highly-seasoned food. The increase in the annual consumption of sugar is simply enormous, and has much to do with the prevalence of catarrh. The common exposures, such as draughts of air, damp feet, etc., are only exciting causes, and as such are responsible for the production of acute rhinitis; but the kind, variety and quantity of the food is responsible, in a great measure, for the functional inactivity of the digestive organs, and consequently the direct cause of naso-pharyngeal catarrh.

Arsenic and Nursing Women.—Dr. Bronardel, of Paris, has recently conducted some experiments bearing upon this subject which are of no little value, He caused a number of wet-nurses, who were patients at the St. Louis Hospital, and were affected with skin disease, to take a certain quantity of Fowler's solution (from two or three drops per day). It was found that the milk of these nurses always contained a relatively considerable quantity of arsenic. No untoward effects were noticed, but this might not be true in all cases. It is, at least, evident that the lactic secretion is a means of elimination by predilection for arsenic, and that it is prudent not to administer this agent to nursing mothers.

Remarkable Monstrosities.—The annals of gynecology contain the report of a girl, a native of West Indies, who has a third leg attached to a continuation of the coccygeal process of the sacrum. The are two extra mammæ above the pubis, and there are two normal and functional vaginæ and vulvæ. The sexual appetite in markedly developed. About twenty years ago an almost exactly similar case, but a male, was described in the *Lancet*. In neither case was there any family history of malformation. In the case of the male the bladder emptied at the same time through both penes.

Dr. John B. Hamilton has resigned the position of editor of the *Journal of the American Medical Association*, in consequence of the recent passing by Congress of the Marine Hospital Service Bill, which has the effect of creating a life tenure in the office of Supervising Surgeon-General—an office which Dr. Hamilton has decided to retain.

DR. S. WEIR MITCHELL has written a new novel of life in the lumber regions, entitled "Far in the Forest," which will soon be issued by J. B. Lippincott Company, Philadelphia. It is said that Dr. Mitchell's vacations are spent in out-of-the-way localities where rest and open-air enjoyments can be secured, and that this book is the result of observation and experience among a very interesting class of people.

WE mention by request that the excellent article by Dr. I. S. Stone, on the "Field and Limitation of Laparotomy," which was published in the February issue of this JOURNAL, was first read before the Southern Surgical and Gynæcological Association, which met in December at Birmingham, Ala.

THE John Hopkins University are to be congratulated upon the completion of their fine hospital building, which will be open for the inspection of the public during the week commencing May 6th, 1889. No one that has watched the rapid progress of this comparatively young institution can doubt that in all which pertains to the latest medical science and management this hospital will be second to none.

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EDITORIALS.

THE TREATMENT OF TONSILITIS.—In the January number of the *Edinburgh Medical Journal* is contained some remarks made by Sir Morell Mackenzie in a clinical lecture at the Eye, Ear, and Throat Hospital in Edinburgh. Sir Morell, as those know who are familiar with his teachings, divides acute tonsilitis into two forms, the superficial and the deep or parenchymatous. The latter form is known to all English speaking surgeons as quinsy sore-throat. The superficial form is known by Sir Morell synonomously as follicular tonsilitis.

The remarks made were directed chiefly towards the treatment of the disease, and although the line of treatment is already familiar, the occasion is an opportune one for a short review of his methods and a criticism upon them. In speaking of the follicular form he remarked that when a person once has suffered with follicular tonsilitis he never recovers, although he may seem to do so. He thinks the follicles are so diseased that they never entirely recover their normal histological character. This is the beginning of the hypertrophied tonsilitis which is seen so often in childhood and is so often accompanied by hypertrophy of the third tonsil in the roof of the pharynx. Mackenzie speaks in high terms of the value of aconite and guaicum in acute tonsilitis. He uses aconite frequently in repeated doses. But he finds better results from lozenges of guaicum, three grains to each lozenge, one being given every two hours at the outset of the treatment. He puffs into the throat on to the inflamed parts at intervals an eighth of a grain of morphine mixed with a quarter of starch. It is held that this application simply renders the patient more comfortable and only indirectly influences the disease. The application of the morphine is particulary of advantage in connection with the guaicum, seeing that the latter remedy sometimes causes intestinal catarrh. Sir Morell calls peculiar attention to the fact that if this follicular form of tonsilitis is not checked, it may pass into the deep or parenchymatous form. This observation unquestionably coincides with the experience of the majority of us, for, it is not by any means a rare occurrence to see follicular exudation in large quantities covering the superficies of a tonsil when there is present deep tonsilitis or even peritonsilitis. Sir Morell remarks "when you find you cannot stop the disease, give inhalations of benzoin, hops, conium, and apply poultices to the outside of the throat."

This sentence might serve as the text of an extended casuistic, seeing that it raises the question as to whether follicular tonsilitis is a specific disease, a self limited fever. That follicular tonsilitis in the original meaning of the word may arise from a variety of causes, perhaps, no one doubts, and we do not doubt either that there is a specific disease of the tonsils, which is infectious, is characterized by swelling of these structures, by exudation *in situ*, and is accompanied by fever and regular systemic disturbances, with apparently a period of incubation. This conviction leads us to doubt the accuracy of Sir Morell's nomenclature and to prefer that of others, who regard this disease as entirely in itself. If the acute disease be quinsy, or if the follicular form be coupled with the parenchymatous, we are advised to make an incision with a view to letting out the pus, if there be any. To encourage suppuration, if it seems likely to occur, and to incise under these circumstances, at any rate, since an incision will relieve tension, cause local depletion, and make a roadway for the pus, if it be formed later. Stress was laid upon the advice to use a guarded, curved bistoury and to cut from without toward the median line of the fauces. All of which is, perhaps trite advice, but will recall to our minds certain precautions, which, in our fallibility, we may forget. In regard to chronic hypertrophic tonsilitis, the lecturer proclaimed himself in favor of using a "machine" rather than a surgeon's knife and forceps, and the "machine" which he prefers is his own modification of Physic's tonsilotome. He remarks, apropos of the operation, that "heaviness of touch" is the great desideratum and attributes to this roughness of manipulation the "marvellous success" of a colleague who could do but little else well.

Sir Morell declares himself in favor of removing the tonsil thoroughly. As a means of rendering your operation certain, press yourself or let an assistant press the tissues under the angle of the jaw inward, just as the tonsillotome is being filled out. We cannot afford to doubt the wisdom of a statement of so renowned a master as Mackenzie, but we desire to express ourselves in favor of a *partial* tonsilotomy not such an *impartial* one as is advocated by this surgeon. It is probable that the majority of surgeons do not agree with Mackenzie in this matter. Closely following this advice he remarked that "some twenty-five years" before he had met with a serious hemorrhage after tonsilotomy which all styptics, even the cautery, had failed to relieve. At last he tried a remedy which he had used since with perfect success. A chemist had informed him that gallic acid when mixed with tannic acid prevents the latter from dissolving in water. He mixed two teaspoonfuls of tannic acid with one of gallic acid in a little water, and gave the patient two teaspoonfuls telling him to sip them slowly. The bleeding was arrested almost immediately.

He has since used this, we are informed, in his hospital and private practice with "perfect success."

We have used, and seen this mixture used, after tonsiltomy on many occasions, and have never seen a case of profuse hemorrhage following its use. Of course we cannot say whether the cessation of bleeding was *post* or *propter hoc*. Under any circumstances, the mixture is well worth consideration as a therapeutic measure for prophylacis or cure.

It must be remembered, however, that the mixture is to be *swallowed*, not used as a gargle. In the act of swallowing, the tonsils, by the facial contraction, sucks up into its crypts the particles of the mixture. This will not take place under any other circumstances.

The favorite treatment of so eminent a surgeon is entitled to the utmost consideration, nevertheless there are many roads to Rome, and provided one reaches his object, cure, with satisfaction to his patient, any form of treatment that is as safe and certain as another is as acceptable as it is. We do not know what is the general condition of people in England when they are affected with tonsilitis; but we have rarely failed to find either in the Northern or Southern States any form of acute sore throat that was not accompanied by furred tongue, fetid breath, and constipation, with hepatic congestion. The finding of these conditions offers indications which to our mind it seems imperative to meet. To prescribe aconite and guaicum as the first agents under these circumstances does not seem to us reasonable. It seems more reasonable to first unload the bowels, to stimulate that great emunctory, the liver, and thereby to lower the cerebral blood pressure, and to drain from the system the products of retrograde metamorphosis. We believe that the treatment of acute throat affections (membranous croup not included) is chiefly the treatment of the systemic condition. Local applications may render the patient more comfortable, but do not strike at the root of the disease. It is hardly necessary to call attention to the value of quinine alcohol and iron given after a purge. Those who happen to live in the Northern States of this continent, probably consider these agents entirely secondary to the purge. We believe that a cholagogue or a hydragogue cathartic to be essential as the first agent in the treatment of acute tonsillitis. In the Northwestern Dispensary of this city, we are accustomed to give to adults the following routine treatment for acute superficial or follicular tonsilitis: one ounce or one-half ounce of epsom or rochelle salts immediately on reaching home from the clinic; this to be followed as soon as there is an action from the bowels by the following mixture:

℞.

Chinoidini sulphat. - - - -	grs. iii.
Tinct. Ferri chlor. - - - -	gtts. iii.
Tinct. Capsici - - - - -	gtts, ii.
Aqæ Gaulth: qs. - - - -	ʒi.

M.

Sig: Take every two or three hours in a little water.

The throat is to be gargled every two or three hours with a hot solution of common salt or a mixture, equal parts, of alum and chlorate of potash, teaspoonful to a pint of hot water; or a hot solution of the hyposulphite of soda, teaspoonful to a pint.

In case of much fever or when the patient is a child we direct that it be put to bed and brandy and milk be given at hours alternating with the chinoidine mixture. We take this precaution in New York because we do not believe it always possible in the beginning to tell whether the disease is diphtheria or follicular tonsilitis, and because we cannot forget a number of cases in which the characteristic secretion of follicular tonsilitis having been recognized at first, the disease afterward proved itself to be virulent diphtheria, as was attested by laryngeal and nasal invasion, with fatal termination.

CHARITY COMMENCES AT HOME.—There are but few faults more commonly met with in the human character than the failure to appreciate that charity should commence at home. We take it a man's first thought should be those of his own household; their good, their comfort, their health should be his first care. What appertains to an individual in this regard should appertain to a body politic. It is certain the fault is frequently met with in individuals and it is the object of these remarks, to call attention to its frequent occurrence in that body known as Medical Charities.

Over this broad earth, wherever Christianity and Medicine are found side by side, there may be seen institutions costly and spacious, where charity is dispensed, suffering is relieved and science advanced. The good is directed as a rule towards those who by their own worthlessness or by the decrees of fortune, are possessed of no home or are without means. Hospitals were originally intended for the poor, whom we have with us always, but in the progress of science it has been found that it is well to open the doors of such institutions to rich and poor alike, for the greatest good to the greatest number and for the furtherance and developments of the science which we are hoping to perfect.

It is unneccessary to remark that those who can pay, do pay for board in hospitals, and men pay, at times, for professional services rendered them. In those hospitals of this city which are not altogether given up to the poor, there are private rooms where wealth can obtain all the comforts of home together with the best modern treatment, under the continual and immediate supervision of an intelligent and competent medical staff. Here money is of value as elsewhere, and he who can pay must take the precedence of him who cannot.

If there is a class of persons on this earth which is entitled to precedence in the matter of medical attendance it is the medical men themselves. It is all very well to say that all men should be equal in this respect; the actual state of affairs show that all are not considered equal in this respect. · And since these things are so, surely those men whose lives are devoted to others, should have proper care when they fall in carrying the burden of others. True, physicians practice medicine for gain as well as for the good of his race, but it is probable that that man cannot be found who in the practice of medicine has not done charity for charity's sake, deeds of actual heroism and self-denial, having for his plaudits and reward, only the satisfaction of knowing that he has done good to others. Let us view the matter practically; a young medical man is taken dangerously ill in this great metroplis. He is poor but gentle; he can hardly earn his living when in full possession of his health. He is compelled to accept the allowance of some charitable medical friend who visits him at his boarding-house, at the expense of time and money.

Those who are familiar with the appointments of boarding houses in this city know full well that they are not peculiarly adapted for the treatment of severe illness. If the patient makes application at some of our "pay-hospitals" he is told he will have to pay from $7.00 to $15.00 a week for a comfortable room, proper attendance and food. If he is unable to do this, he has before him the charity wards of the hospital or perhaps a hall-room in a boarding house. Many a case can be cited in which the death of medical men was probably due to inefficient care in sickness owing to the fact that they could not obtain the advantages of first-class attendance. While first-class attendance and proper food may perhaps be obtained in the charity wards of a hospital, every gentleman will admit that it would be highly distasteful to him to enter these wards as a patient. In all the provisions of charity it seems no one has thought of the poor and unfortunate physician who succumbs to the enemy he is always fighting for others.

Those medical men who have home, friends, money and influence may overlook the importance of this matter, and fail to appreciate the need of some dispensation of this sort, but if so, they have forgotten their early struggles or they had none. When a medical man without means applies for entrance at a "pay-hospital" he should be given equal consideration with, if not preference, over a layman who with means applies for entrance. It seems to us that it would be the part of justice for the hospital authorities to decline to accept remuneration for a physician's stay and attendance in a hospital. For we consider what a physician under such circumstances is losing. His practice another has taken, or it is scattered amongst his "brethren." His expenses are still going on at home, if he has a family; his health is gone and he must wait for it to come back, or await his end. If such a man has to pay for his board in the hospital too, he surely bears expenses which are great. Others have to bear this, some one may say—why not physicians also? This raises again the very point at issue. We believe that those who devote their lives to the service of others ought to have first-class hospital advantages without money and without price. What incalculable good does a man do who for a long series of years devotes two or three hours a day to the treatment of charity patients. And this takes no cognizance of the hidden acts of good which he daily does in private practice, for which he gets neither thanks nor money nor credit. It seems to us that just here lies a field for much good. There should be in all hospitals private rooms for the care of ill physicians, or they should be given at least equal consideration with Dives when ill, and their attendance and board should cost them nothing. Physicians do give, and gladly, their services to one another gratis. It rests now with the hospital authorities to take a step in a new direction and institute a charity which commences at home.

ONE of the most interesting and important contributions to medical science, of recent date, is a monograph by Dr. P. Müller, Professor of Gynæcology and Obstetrics in the University of Bern, on the mutual relations between the diseases of the female body and the sexual functions. Gynæcology and obstetrics, as the author contends, are too much isolated from general medicine, and they ought to be brought into closer relation to the other branches of medicine. The female sexual organs are distinguished, as is well known, by their potent influence on the remaining organs. The entire organism is powerfully affected by the rapid growth of the sexual organs when hastening to maturity. Ovulation and menstruation exercise, as universal observation teaches, a modifying influence upon all the other corporeal functions. These phenomena, however, sink into insignificance when compared with the changes which conception and gravidity call forth, so that there is scarcely a part of the body that does not experience functional or even anatomical changes in consequence of pregnancy. These changes may pass beyond the limits of the physiological and assume the garb of the pathological. The act of birth and the puerperal condition produce alteration of function to a greater or less degree in the system at large. If, consequently, it is admitted on all sides, that the active female sexual organs exercise a vast influence on the various systems of the healthy human organism, it is by no means so clearly demonstrated to what extent the sexual functions react on organs already the seat of disease. In some instances pregnancy seems to exert a favorable influence on the diseased organ, or general disease, as the case may be; in others, on the contrary, pregnancy may be looked upon as an event disastrously affecting the patient's welfare. What influence the pathological processes of the organs of the remainder of the body exert on the sexual functions is a theme which has been but little studied; and this defect in our knowledge it is the aim of Dr. Müller to remedy as far as he may. As he propounds the question he will go from organ to organ, and in each of its individual diseases, as well as in general diseases, he will ask this question: "What do we know, supported on clinical facts, of this interaction? Do diseases suffer modifications through the sexual functions and, if so, what are they? And, conversely, what alterations does the sexual life of woman experience in consequence of the different diseases of the body?" To those of our readers who read German we heartily commend the perusal of this excellent and suggestive treatise.

INFORMATION REQUESTED.—Information is desired respecting the late Dr. J. H. Burford of the Bellevue Hospital staff of 1853. He was probably an alumnus of a Southern Medical School about 1852. If any college officer, or other physician, having catalogues of that period, will look into them for this name and finding it, will write us as to the college and date, he will confer a signal favor. The attention of the Deans of our medical faculties is invited to the above request.

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ORIGINAL ARTICLES.

ARTICLE I.

On the Formation of an Artificial "Vitreous" Body with a View to Making a Good Stump for the Accurate Fitting of Glass Eyes.

By John Herbert Claiborne, Jr., M.D., of New York.

The experiments detailed in this paper were made for the purpose of establishing some method of obtaining a soft, compressible and prominent stump in the orbital cavity after the operations of evisceration and enucleation with a view to fitting glass eyes more accurately in order that irritation may not arise from their use, and that the movements of the stump and those of the glass shell may be as nearly as possible synchronous.

The tissues that remain in the orbit after the operation of enucleation may be moved by the action of the external muscles of the ball, provided their integrity have not been affected by the enucleation.

Glass eyes are made in the shape of concavo-convex shells; when they are inserted into the orbit after an enucleation there remains behind them an empty space the size of which depends directly upon the extent to which the remaining orbital tissues sink into the socket. Since the joint, made by such elements, consists of a concavity placed over a concavity, the grasp of the orbital tissues on the artificial eye can be only at the periphery of the shell. The movements of the artificial eye cannot, therefore, be as great as those of the stump, nor can they be synchronous with those of the stump. It has come within the observation of all who are experienced in ophthalmology to have observed a gush of secretion from the sac when an artificial eye is removed, to see severe conjunctivitis (not to speak of iridocyclitis) following the wearing of a glass eye, and to have observed frequently at the periphery of the sac where the edge of the glass eye rests, a swollen, thick-circumvallate condition of the mucous membrane.

The loss of one's eye is a disadvantage, not only from a utilitarian standpoint, but also from the standpoint of a vanity which is surely pardonable.

To rob a man of an eye is to take a great responsibility upon one's self, for the loss decreases his power and acuteness of vision, it takes from him in great measure the appreciation of solidity and projection in vision, it limits his field of usefulness, particularly in commercial relations, it diminishes his chances for the consummation of his life in marriage, and makes him socially an object of conspicuousness and secret pity.

Since the surgeon cannot restore the "fair proportion" of the lost eye, nor substitute another of flesh and blood, it becomes him to do all that is possible to aid in an honorable deception.

I deem these considerations sufficient apology for the inconvenience to which the rabbits experimented upon have been placed.

EXPERIMENT NO. 1.—A large black buck was chosen. The circumorbital hair and the eyelashes around the right eye were removed close to the skin with scissors. The conjunctival sac and the region round about the orbit was disinfected at length with a warm solution of the bichloride of mercury (1-8000). The instruments used were washed thoroughly in hot water, rubbed bright with absorbent cotton and were immersed for 10 minutes before the operation and allowed to remain during the operation in absolute alcohol. My own hands and those of my assistant's were washed with soap and water, the nails were pared and cleaned and the hands submerged entirely for several minutes in a solution of the bichloride of mercury of the above mentioned strength. Over a deal table was spread a newspaper, and over the latter a clean, white cloth.

The sponge employed was soft and delicate in texture, was prepared by Am Ende of New York, and was kept in a solution of bichloride of mercury (1-8000).

The animal was etherized. In order to gain room for the operative procedures, (for the operative *terrain* in rabbits' eyes is very small), the external, or rather posterior canthus was slit back as far as the edge of the orbit. Bleeding from this wound having been arrested, the ball was attacked. A Græfe's cataract knife was passed into the limbus cornea in front in the horizonal meridian of the eye, pushed across the anterior chamber and was allowed to make its exit at the limbus corneæ behind in the horizontal meridian, so that when the section was completed, the cornea was divided into two equal halves and the iris was exposed to view. The halves of the cornea were grasped in turn with forceps and were cut off with a pair of curved scissors in such a way that a small rim of scleral tissue was included in each half-disc.

The eye was now irrigated with the antiseptic solution. A small lid retractor was thrust into the contents of the scleral cavity and the isis, lens and vitreous humor were removed. The bleeding now was considerable and it was necessary to wait for some time before the interior of the ball could be inspected. Examination of the matter removed showed that only a part of the retina had been brought away. Finally, the retractor was again used as a scoop and the remaining part of the retina together with a large part of the choroidal coat was taken away. Small shreds of choroid and a few ciliary processes were seen still clinging to the interior of the sclera after I had decided to desist in my attempts to clean the cavity out completely. I was not discontented at allowing these shreds to remain as I had always had doubts as to the necessity of completely removing the inner tissues of the eye in evisceration. The artificial cavity was now thoroughly irrigated with the antiseptic solution and the whole region was covered by a large pad of absorbent cotton dipped in the same solution, while it was attempted to cut a portion of sponge so that when expanded and dry it would exactly fill the cavity. Owing to the persistent bleeding it was quite difficult to satisfy myself as to the proper size of the sponge. Finally a piece was cut that when saturated with blood just filled the cavity. The antiseptic solution was poured on the sponge *in situ;* the superfluous fluid was then "sopped up" with a piece of absorbent cotton. Interrupted sutures were now passed through conjunctiva and sclera at once and the edges of the scleral opening were brought together. Six sutures were used, and the material employed was the carbolized cat-gut No. 0, of Paul Heidenheim, Würthburg. There was a slight puckering of the corners of the wound. This was regarded as favorable to the drainage of the scleral cavity.

The wound made by the cauthotomy was closed by a disinfected suture of China bead silk No. 3.

The conjunctival sac having been washed out with the disinfectant once more, boracic acid powder was dusted into it, particularly along the line of the sutures. The edges of the lids were stitched together by the silk sutures mentioned above and capillary drainage of the sac was instituted by passing several strands of the catgut into the sac under the sutures in the lids and allowing their ends to hang out at the two extremities of the palpebral slit.

The whole site of the operation was finally dusted over with powdered boracic acid, several pads of dry absorbent cotton were placed over the eye and an attempt was made to apply a bandage.

A strip of antisepticized cheese cloth was laid over the cotton; one end of it was carried under the chin, the other in front of the right ear. The two ends of the bandage were then tied in a tight bow-knot behind the root of the left ear. In this simple head gear the rabbit hopped out of my hands with an air by no means grave.

The animal was seen on the following day at 4 o'clock. The bandage had come off; the upper lid was considerably swollen; the lower one was normal; there was no secretion from the sac; the sutures in the lids were firmly in place, the animal was lively, and seemed to have a good appetite. The next day the upper lid was less swollen; the sutures in the lids had not come out, and a small quantity of yellowish secretion could be seen in the corner of the conjunctival sac. Powdered boracic acid was dusted over the region. At the end of three days the lids were apparently normal; there was not even any redness that could be considered pathological. The secretion in the conjunctival sac had increased in quantity, but was thin and white. The eye was odorless.

On the fifth day the sutures in the lids were removed and the line of scleral sutures could be seen, covered by a small mass of thick, white, tenacious-looking secretion. There was no heat, nor redness, nor swelling of the conjunctiva. Some of the white, tenacious mucus was removed, with aseptic precautions, from the conjunctival sac, and a cover glass preparation was made of it, for examination under the microscope. The specimen was stained for bacteria with methylene blue. White blood cells and fibrine were found in abundance. Cocci and bacilli were found in large quantities, but in view of the fact that all the clinical features of inflammation were lacking, it was concluded that the bacteria had probably been deposited from the air after the operation and had no pathological significance.

Four weeks from the date of the operation, the stump of the sclera, containing the sponge, was removed. The enucleation was performed so that the conjunctiva in the immediate vicinity of the sutures was removed with the stump.

Inspection of the stump after removal showed that there was firm union between the edges of the scleral wound except at the extreme forward limit of the suture-line. Just here the sponge could be seen, although it did not project above the lips of the openings.

The stump was firm and compressible and no traces could be seen of the catgut sutures. The specimen was put into absolute alchhol. It is worthy of note that the other eye of the animal at no time evinced any sign of inflammation or even irritation, and the bodily health was apparently good, albeit it was somewhat thin at the time of the second operation, owing to a want of faithfulness on the part of the attendant in feeding.

EXPERIMENT NO. 2.—A large white buck was selected. The hair and lashes around the right eye were clipped close to the skin with scissors.

The same antiseptic precautions were observed as in the foregoing experiment. The right eyeball was enucleated, so that the capsule of Tenon was left as an incomplete bag.

A piece of antisepticized sponge prepared by Am Ende and kept in a solution of bichloride of mercury (1-8000), was cut so as to be as nearly as possible of the same size as the eyeball (when relaxed and dry). A piece of orbital fat which persistently projected through the posterior opening in the capsule of Tenon, was cut away. The bleeding was considerable, and the cavity had to be sponged frequently for some time before a clear view could be had of the interior of the capsule. Finally, the bit of sponge, squeezed free of the antiseptic solution, was inserted into the capsule. The sponge immediately filled with blood. The whole socket was then irrigated with the bichloride solution and the sponge was relieved of some of its charge by pressure with dry, absorbent cotton.

On trial it was found that the conjunctival edges could be drawn together over the sponges without undue tension. The edges of the conjunctiva were now brought together with seven or eight interrupted sutures of carbolized catgut No. 0. When these were completed, the sponge could be seen pressing up the conjunctiva in a slight tumescence. A soft yielding feeling was imparted by it to the finger. The conjunctival sac was once more irrigated, and a temporary tarsorraphy performed by stitching the lids together with China bead silk No. 3, which had previously been immersed in the antiseptic solution.

Boracic acid powder was dusted over the whole region and the animal was placed in a cage in which it could obtain plenty of air.

On the following day it was seen by an assistant who reported it well, with no swelling of the lids. The lid sutures still held together.

On the third day it was seen by myself. It was apparently well and hearty. There was no swelling of the lids, no secretion. Two of the lid sutures had given away, but the lids were still held together by the middle one. Boracic acid powder was dusted over the whole.

On the seventh day the conjunctival sac was exposed to view. A small quantity of white, tenacious-looking secretion was clinging to the line of sutures. The bulge of the sponge could easily be seen. There was no redness, no swelling, no odor about the parts.

Three weeks from the date of the operation, the condition was the same as above, except that the sponge seemed to bulge forward less than at the last examination. A week later there appeared severe catarrhal conjunctivitis in the sac although there was no odor. This conjunctivitis yielded in a few days to cleansing and the dusting of boracic powder into the sac.

The condition of the animal remained practically the same as at the last observation until the second month after the operation when it was discovered that the sponge had pushed its way through the conjunctiva, apparently through the line of sutures, and was presenting a white, honey-combed appearance.

Several days later the animal was etherized and the sponge removed. It was attempted to withdraw the sponge by forceps, but it was found that while the forward portion was seemingly free, the rest was held to the orbital contents by adhesions.

The use of the scissors was necessary to remove it. The sponge was white and compressible in some parts, firmer, and apparently filled with granulations in the other parts.

When removed, the sponge was found to be about twice the size of the eyeball. The contents of the orbit seemed to have shrunk away from it, for the cavity appeared to be quite roomy.

From the general appearance of the parts, I am inclined to think that the sponge had broken through some time before it was discovered. The specimen was placed in Müller's Fluid.

EXPERIMENT NO. 3.—Large brown buck. The hair around the eye was allowed to remain, while the lashes were clipped close to the lid. The conjunctival sac and the whole region around the right eye was disinfected with a solution of bichloride of mercury (1–4000). With the exception of the difference in strength of the solution of mercury bichloride, the same antiseptic precautions were observed as in the foregoing experiments, and the same manner of attack was employed as in the first experiment. The cornea was removed, together with the iris, the lens and the vitreous humour. The retina was brought away piece-meal, together with a few shreds of the choroid. It was determined, for the sake of pure experimentation, to leave the majority of the chorideal coat within the cavity, and especial care was taken to leave the ciliary processes untouched. A piece of absorbent cotton that had been saturated for fifteen minutes in the bichloride solution, was wrung out and inserted into the cavity. The ball of cotton was just large enough to permit of the scleral lips of the wound being closed without any apparent tension. The wound was brought together by a running suture of China bead silk No. 3. A few interrupted sutures were added in several of the interstices left by the running suture. The sac was then thoroughly disinfected with the antiseptic solution.. The lids were not stitched together, so that the scleral stump was exposed to the air when the animal opened its lids. No boracic acid powder was used. The animal was set at liberty in the back yard. On the second day there was slight œdema of the upper lid. No redness nor swelling of conjunctiva. Animal eat well and was lively. The same condition obtained two days later. The animal was observed casually until the second week after the operation. Close inspection of the eye at this time revealed that there was no inflammation of the lids nor of the conjunctiva. The stump was white, and a faint bit of white, tenacious-looking secretion lay over the suture-line. The stump was soft and compressible, and there seemed no disposition toward rupture of the sclera along the line of sutures nor anywhere else.

The eye remained practically in the above condition until the seventh week after the operation, when it was discovered that the cotton had broken through the sclera *above* the line of sutures. Not even now was there any sign of redness or swelling. The cotton that projected was varnished over with a glazy, transparent coating which I took to be lymph. The sutures had not been removed for fear of disturbing the union of the lips. It is worthy of emphasis that the suture-line was *not* involved *at all* in the rupture. The cotton at this time was projecting to the extent of about the tip of one's little finger. The eye was left in this condition for a month longer. The cotton was then projecting extensively, so that the sclera seemed shelved backward and toward the sides of the conjunctival sac. The cotton was still covered by the same glairy coating, and there was no sign of inflammation in the entire region. The other eye showed no sign of irritation even during the whole period. At the end of about ten weeks after the operation, it was decided to remove the cotton from the sclera. It was quite impossible to remove the whole at once. With the first manipulation the cotton presented itself so formidably that it was with difficulty I could grasp the conjunctiva at all. Finally, the cotton had to be removed from the cavity, and the crumpled sclera afterward, piecemeal.

The bleeding was excessive, especially when the optic nerve was cut. The cotton and bits of sclera were placed in Müller's fluid.

The results detailed in the above experiments are negative on the whole, at least so far as the use of cotton in assisting to form a good stump for artificial eyes is concerned. Nevertheless, some results were obtained which will bear recalling.

In the first experiment, evisceration and the transplantation of sponge into the scleral cavity, no irritation or inflammation followed the operation, either in the eye that had been attacked or in its fellow. Some shreds of the intra-scleral coats were left, but this seemed to produce no ill-effects. The scleral line of sutures, which were of catgut, held firm till there was union. The stump was visible at one spot only. Whether the suture was broken away by the pressure from within, or whether it was omitted to close the forward angle of the wound as accurately as the hinder one, I cannot say. When the sutures had all been tied it was observed that both angles of the wound were puckered; the yielding, however, occurred only at the forward one.

In experiment No. 2, the transplantation of sponge into the capsule of Tenon, the sponge broke through the conjunctival wound in two months. One month preceding the discovery of the rupture, there was severe conjunctivitis which yielded rapidly to treatment.

The sponge was permitted to remain in this condition of protrusion for several weeks, in order to see whether any sympathetic inflammation or irritation would be set up in the other eye. None was observed. In the first two experiments the lids were stitched together as a means of dressing, while capillary drainage was instituted in the conjunctival sac. Moreover, boric acid powder was dusted frequently over the region and into the sac.

In experiment No. 3, the transplantation of cotton into the scleral cavity, a stronger solution of bichloride was used than in the first two experiments. The lids were *not* stitched together, and no boric acid was used. The sclera and conjunctiva were stitched together with China bead silk in preference to catgut. This eye was freer from the tenacious-looking secretion that covered the line of sutures than the other eyes; the drainage evidently was better in this eye owing to the fact that the lids were not held together, and no powder was dusted into the sac. It seemed to me that this eye was more nearly aseptic than either of the other two. I hold that this result has some bearing upon the open treatment of wounds, especially those of the eye in which the lips of the wound are brought together by sutures. It is a remarkable fact that the sclera was not ruptured along the line of sutures. It is quite impossible for me to explain why this should have been the case. It seems natural for the rupture to have taken place above the suture line rather than below it, for below the sclera was sustained by the shorter lower lid and the infra-orbital ridge. The glazed appearance of the projecting cotton stump was quite noticeable. This must have assisted largely in preventing infection.

The following is the report of Dr. R. H. Cunningham describing the gross and minute appearances of the three specimens.

SPECIMEN NO. I. Eye of rabbit. Posterior two-thirds of sclera with a small portion of the conjunctiva still attached, along with portions of orbital fat forming an incomplete capsule anteriorly. The wound of the sutured conjunctiva is seen to have completely healed in a portion of its extent. In the remainder, however, the edges have separated, leaving a ragged transverse gap into which a small portion of sponge is protruding.

Microscopical appearances. Section passing vertically through optic nerve entrance and conjunctival rent. Stained with hæmatoxylin and eosin, and mounted in Canada balsam.

Centrally is seen the sponge, with network occupied by considerable granular matter and numerous siliceous spicules. For about two-thirds of its circumference it is surrounded by the sclera, with here and there portions of the choroid and numerous cells containing pigment still attached. *Posteriorly* the optic nerve entrance is shown, apparently presenting nothing abnormal. Only in the anterior part of the sclera, at the point of union of its edges and outer surface with the conjunctiva, can any change be discerned. This consists of a slight fibrous thickening of the scleral coat and of the formation at its edges and between it and the conjunctiva, of a small amount of granulation tissue more or less completely organized.

Anteriorly the attached conjunctiva is seen in this section to consist of two portions, an upper and a lower, separated from one another by a fissure. Into this fissure projects a small process of the sponge framework, in the meshes of which a few scattered red blood cells, a considerable quantity of granular matter, numerous groups of pus cells, and numerous cocci and rod-shaped micro-organisms are found. From the edges and posterior surface of these two portions of the conjuctiva a small zone of proliferating granulation tissue appears to be growing into the spaces of the sponge network, the keratose framework of which, apparently absorbed at certain locations, presents an eroded and pitted appearance. Many of these small pits are still occupied by one or more leucocytes, which have probably produced them. As the sclero-conjunctival point of union is approached, this zone of granulation tissue is seen to become markedly narrow and finally to disappear as the scleral margin is passed.

In the slight space existing between the inner surface of the sclera and the periphery of the sponge, only an occasional leucocyte, a moderate quantity of finely granular matter, and a few micro-organisms can be seen.

In no portion of the fundus, nor anteriorly in the neighborhood of the wound can evidence of an active destructive process be discovered.

SPECIMEN NO. 2. Portion of the connective tissue of the orbital cavity of a rabbit, containing implanted sponge.

The gross appearance, though much altered, were as follows: anteriorly, above and below, a small part of the conjunctiva, presenting centrally a recent horizontal line of union which is crossed by several vertical fissures, apparently caused by ulceration from sutures.

Through the fissures, as well as through two still unclosed suture holes, small portions of the contained sponge protrude. Posteriorly, the mass of tissue appears quite firm. No part of the optic nerve has been left attached.

Superiorly, inferiorly and laterally, only shrivelled connective tissue and fat appear.

Section: from before backward, perpendicular to the line of conjunctival union, stain as before.

Centrally is seen the sponge, surrounded completely and penetrated at its periphery by a zone of granulation tissue, arising from the encircling orbital connective tissue and posterior surface of the conjunctiva, which in this section has perfectly united.

This zone of granulation tissue, broader and more perfectly organized posteriorly, completely surrounds the entire sponge except at the above mentioned fissures and unclosed suture holes, at which points it becomes continuous with the mass of granulation arising from the edges of these orifices.

The margin of sponge presents in this, as in the preceding specimen, the same eroded appearance, though to a much greater degree.

Scattered along the border of this advancing zone of granulation tissue, as well as throughout the entire framework of the sponge are numerous fine granules, siliceous spiculæ, and many isolated leucocytes.

At the unclosed suture holes the process is apparently similar to that described above in connection with the ununited wound of the conjunctiva in the preceding specimen.

At no point, therefore, in this as in the former sections can signs of a destructive inflammation be detected.

The absorption and replacement of the sponge by granulation tissue appears to be the most prominent feature.

Specimen No. 3. This was so torn at its removal from the animal that nothing very satisfactory can be obtained.

Instead of sponge a small ball of aseptic cotton had been implanted.

On section of this ball, which had protruded out of the cavity of the enclosing sclera, only granular matter, numerous micro-organisms, and a few scattered pus cells could be found among the cotton fibres. On examining fragments of the sclera microscopically most of the choroid appeared to have been left. In none of these fragments with the exception of a moderate dilitation of the choroidal vessels could anything worthy of comment be determined.

R. H. Cunninham, M.D.

The macroscopic and microscopic pathological changes in the specimens have been so accurately described by Dr. Cunningham that any extensive recapitulation of his report is deemed unnecessary. Let one point however, be borne distinctly in mind—microbes in abundance were found in the interior of each specimen; add to this the fact that there was no microscopic nor clinical evidence of destructive inflammation either in the eyes while they were under clinical observation, or in the specimens when they were submitted to inspection by the microscope, and we have presented to us some food for speculation and reflection.

I cannot say that the microbes were or were not pyogenic in character; no one thinks that non-pyogenic germs will produce destructive purulent inflammation, nor does *everyone* think that the so-called pyogenic germs will *always* produce pus. Perhaps cultures should have been made or it should have been attempted to make cultures from the interior of the specimens. The failure or the success to obtain colonies in nutrient gelatine, in case this had been attempted may have possessed some value as evidence, but I believe that whatever would have the result, the evidence would have been negative evidence, since I do not think it would be possible under such circumstances to eliminate all chances of vitiation in making the cultures. True, the microbes may have been introduced by manipulation in the operation and they have been destroyed by the genuicide *in situ*, so that there may not have been any multiplication of them. However all this may be, microbes, round, and rod-shaped were found in the interior of the specimens and the clinical and microscopic evidences of inflammation were lacking.

From my personal inspection of the specimens under the microscope and from scrupulous care with which I performed the operation, I do not think it probable that all the microbes discovered were introduced by myself. I think it more probable that microbic multiplication took place within the eyes.

Alfred Græfe proposed and performed the operation of evisceration of the eye-ball, chiefly with a view to cosmetic effects in the fitting of glass eyes. Becker was stimulated to experiment with evisceration on account of the increasing (?) number of cases of meningitis and even death that followed enucleation. For my part I can conceive of the operation of evisceration being indicated from the point of view of the cosmetic only. Surely in the cicatricial contractions following the crumpling of the sclera after eviseration we have the best chances for nerve irritation; in the recesses of the crumpled scleral cavity, we have a nice warm nest for the tender rearing of pathogenic germs, if they happen to lodge there; so that it seems to me, this operation would be favorable to the settling up of the process known as sympathetic ophthalmia, whether its cause be an irritation of the ciliary nerves or an infection through the lymph spaces by the microbes of suppuration. I am not unaware that the operation of evisceration has been restricted by intelligent surgery to those cases in which there is or has been no evidence of sympathetic ophthalmia, but in view of the fact that the etiology of this disease is not a certain matter in the minds even of the fathers of ophthalmology, I should be disinclined to perform the operation at all, as it is done by Alfred Græfe.

The modification of evisceration proposed by Mr. P. H. Mules, of Manchester, England, I conceive to mark an era in ophthalmic surgery. I refer to the insertion of a glass sphere into the scleral cavity after evisceration. From a purely theoretical standpoint the advantages of this modification of evisceration seems to me to be manifold. Good movement of the stump is necessitated for the extrinsic muscles are still attached to a firm and resistant globe. The circulation of blood and lymph in their respective channels in the sclera and conjunctiva, is encouraged by retaining to a certain extent the original form of the sclera, while the ciliary nerves are not compressed and bitten by cicatricial crumpling. This condition of affairs seems to me to be less favorable to the production of sympathetic ophthalmia, than the condition which obtains after simple evisceration. Nevertheless, I hold that the insertion of a hard and unyielding sphere in the sclera cavity is not the ideal procedure, as a number of cases have amply demonstrated. Mr. Richardson Cross reports a case of sympathetic ophthalmia four months after operation, and another of " sympathetic iritis " following the insertion of a glass ball into the scleral cavity. Both cases recovered. Mr. Brudenell Carter reports thirteen operations of eviscerations followed by the insertion of glass balls into the scleral cavity, and concludes from this experience that we are indebted to " Dr. Mules for one of the most remarkable and valuable improvements in modern ophthalmic surgery." He says, further, " when the operation has been successful I can describe its results as perfect. There is no apparent difference between the motility and position of the two eyes." He found no intolerance of the glass ball; one patient had worn it nineteen months. Dr. Renton has had perfect success with evisceration and artificial globes. Dr. Neall has reported two cases of evisceration in which silver globes were used. He considered it extremely fortunate that a metal ball had been used in one case, as the patient soon after the operation received a severe blow on the eye, which would inevitably have broken a glass ball in the scleral cavity. Mr. Lang advocates the insertion of glass balls into Tenon capsule after enucleation.

Mr. Mules himself has reported a number of cases with good success. In a paper of Mr. Mules, read by proxy at the International Medical Congress, held in Washington, in September, 1887, the method of operation was described. In the course of this paper it was stated that considerable reaction and some pain may follow the operation. Mr. Mules dissects up the conjunctiva around the cornea before making his incision in the ball. It will be remembered that my procedure in the experiments herewith detailed differed in this respect from those of Mr. Mules. Moreover, Mr. Mules puts in two lines of sutures, one through the sclera the other through the conjunctiva. I am inclined to discountenance this because it leaves a pocket which renders perfect asepsis less probable, than when the conjunctiva is not dissected up, and both it and sclera are included in the same suture.

Galezowski comes forward with the startling statement that he saw this operation attempted by Professor Richet in Paris fourteen years ago. Great inflammation resulted and it was not possible to introduce the ball. Enucleation was done six months after and the patient got well. He saw another case recently in which a sinus formed in the wound. Treatment was of no avail and the eye had to be enucleated. This surgeon sagely remarks that one year is barely enough for a final conclusion to be drawn in the matter of results in this operation. Dr. Baker, of Cleveland, Ohio, stated at the International Medical Congress in 1887, that he had eviscerated an eye, the cornea of which had been destroyed by sulphuric acid. He inserted into the scleral cavity a glass button, " like a collar button ; " the man had worn it comfortably ever since. Mr. Powers, of England, has performed the operation successfully in many cases. He lays stress upon the fact that the edges of the cut sclera should just meet. He reports, however, three cases in which the results were by no means satisfactory. Suppuration took place in one case ; in the other two the wound yielded, and the glass ball was pushed out. It is stated that catgut sutures were used in these cases. Spheres of glass, of silver, of celluloid, have been introduced into the scleral cavity with a view to furnishing an arificial supporting body. It seems to me that there are obvious objections to all these materials. In the first place, they are all hard and unyielding. While I subscribe to the opinion that *suppuration* is due to the presence of pathogenic bacteria, the germ theory of disease has not run away with me to such an extent that I do not believe a serous or sero-fibrinous inflammation may be instituted by aseptic mechanical irritants.

We know that destructive irido-cyclitis is not always a suppurative inflammation, and whatever may be the etiology of this disease, I should be unwilling to subject the ciliary nerves to mechanical irritation. Whether the inflammation in those eyes in which an artificial vitreous body has been placed, was due to mechanical irritation or to sepsis, I cannot say, nor do I believe that the surgeons specially interested in these cases would be willing to compromise themselves by the expression of an opinion on the subject. The ciliary nerves being caught between a hard, resisting body within and an equally hard and resisting body without, must be affected to a certain extent. And when we consider that the glass shell does not fit exactly over the stump, we must admit a certain amount of pinching by its edge. It must not be forgotten that the glass ball may be broken, in which case enucleation of the stump would be necessary. If a soft and yielding material be substituted for the hard and unyielding material in the scleral cavity, we certainly have a condition of affairs more favorable for the wearing of a glass eye. In my experiments, sponge and cotton were employed as pads for the stump. It was conclusively shown in Experiment 3 that cotton will break through the sclera. From the other two experiments I feel certain that sponge should not be implanted either in the scleral cavity or in Tenon's capsule.

In lieu of all other materials that have been used I suggest india-rubber balls, glass wool, and asbestos. The rubber balls should not be solid. They should contain an air space, so that they may easily yield to pressure. The use of rubber balls necessitates having a number of them on hand in order that one may be selected that just fits the cavity to be filled. This difficulty could be obviated by filling the cavity with asbestos or with glass wool. These could easily be moulded into a ball of just the necessary size. These materials cannot swell by the imbibition of fluids, are soft as wool, very cheap, and are obtainable almost everywhere.

I do not know whether india-rubber would crumple or be influenced by a long residence in human tissues. This ought to be determined by experiment. I feel quite certain that asbestos or glass wool would not be affected by such a sojourn. I am equally confident that their interstices may be thoroughly disinfected by a proper antiseptic solution and I do not believe they will act as irritants when properly disinfected. It is not my purpose to state fully the indications for this operation. Suffice it to say that I think it indicated whenever Critchett's operation for abscission of the cornea is indicated and in those cases of intra ocular tumor in which the neoplasm is benignant. I should be disinclined to consider the operation indicated in any case in which there is or has been acute intra ocular inflammation, especially irido-cyclitis. In the matter of performing the operation after rupture of the globe, I think that attending circumstances should guide us. My experiments and two of the unsuccessful cases of Mr. Powers seem to indicate that catgut sutures are not reliable in in holding together the sceral edges of the wound. To my mind silk sutures are preferable.

I shall sum up my conclusions on this subject in the following manner:

The operation of enucleation of the eye-ball does not leave behind in the socket enough of a prominence to permit of the accurate and comfortable fitting of glass eyes.

The operation of evisceration, while it leaves behind a better stump than the operation of enucleation is open to obvious objections.

The operation of Mr. Mules, of England, is objectionable because it subjects the ciliary nerves to constant pressure between two hard and unyielding surfaces.

The transplantation of sponge and cotton into the intra-scleral cavity is probably not feasible in the human being.

The transplantation into the intra-scleral cavity of some soft, yielding body, which will not degenerate, which can be rendered aseptic, which will not swell by imbibition, and which will not become absorbed, seems to be a rational procedure.

Based as yet upon no experimental observation or experience, I suggest glass wool, asbestos and India rubber hollow balls, as artificial "vitreous" bodies in modification of Mr. Mules's operation.

I am indebted to Dr. R. H. Cunningham for his accurate and careful examination of the specimens, and to Dr. J. A. Allis for his co-operation and valuable assistance in the performance of the experiments.

ARTICLE II.

DOES THE MENSTRUAL FLOW ORIGINATE IN THE TUBES? THE ACT OF MENSTRUATION VIEWED FROM AN INVERTED UTERUS.

By E. J. CHAPIN WINARD, A.M., M.D., Physician to the Department of Diseases of Women, in the Brooklyn, E. D., Dispensary and Hospital.

During a visit in August to my friend Dr. H. of Warren Co., N. Y., I was invited to see a case of inverted uterus which had been under her observation for treatment, a short time before my arrival.

History.—Margaret, æt. about 30 years, multipara—occupation a basket weaver, was delivered of a child five months before at term. The placenta was adherent, and the attendant pulled it away, leaving the vagina filled with a mass supposed to be a tumor.

When she applied to Dr. H. for treatment she was much reduced and very nervous. Upon examination the uterus was found to be inverted. Proper treatment was given, and when she was able, a reduction was attempted, but failed because the patient refused to take an anæsthetic, and was too feeble to have it done without. She left the place, but returned a few days before my visit.

She came to the office, complaining of hæmorrhage. It was found that she had been menstruating for four days for the first time in five months, or before the birth of the child, and that she was flowing more freely than was her normal habit; had much pain, nervousness and prostration.

Having seen but one case, and that through the courtesy of Dr. Mundé, at Mt. Sinai Hospital, a few weeks before, I was eager to examine the case and watch the act of menstruation, and settle in my own mind a point which *advanced* gynæcology has been foreshadowing for some time, viz.: That the tubes play the most important part in the act of menstruation.

Upon examination I found the diagnosis of inverted uterus to be correct. The left ovary filling Douglas' cul de sac, and the right one lodging above the ring formed by the neck of the uterus. The tubes were dragged down and put on a strain in the sac formed by the peritoneal surface of the inverted uterus.

The surface of the tumor was of a dark-red color, studded with points of a darker hue and resembled the tongue of a bad case of scarlet fever without the creamy coating.

From this surface no discharges, to speak of, could be wiped away with cotton; but from the tubes a dark healthy menstrual flow passed out drop by drop, and when the tubes were pressed upon, would form a stream for an instant.

With treatment she recovered from this attack, flowing several days longer than usual; and I hope to hear further of the case from observations made at future monthly periods.

If the menstrual flow does take place from the tubes, many things will be made plain, which now confuse gynæcological and midwifery practice, and will overturn hitherto preconceived ideas with regard to the functions of the uterus and its appendages.

Dr. Johnston, of Kentucky, the leader in advanced researches on the uterus and menstruation, divided the uterus into two segments, the neck and body—the functions of which differ materially. Again he demonstrates "that the corporal endometrium has an entirely separate nerve plexes, entering it at either cornu, from the centers imbedded in the broad ligaments and tubes."

He makes the body of the uterus an entirely separate organ, with its own special nerve supply, and with its distinct function. Again the openings of the tubes of this inverted uterus were dilated, so as to admit the head of a small uterine sound.

Do the tubes dilate during the menstrual flow?

If so, cannot treatment be made directly to the diseased tubes in cases where operations cannot be performed, as the urethras are catheterized? And may not tubal pregnancy be more explainable? Mr. Tait says, "All ectopic conceptions are primarily tubal?

In this case of a healthy woman, the excessive flow was undoubtedly caused by the hyperæmia of the tubes from the dragging strain and the misplacement of the uterus.

In Battey's operation, it is proven that the failure to produce the the menopause, which sometimes happens, occurs from not removing the tubes close to the uterus.

Does the scanty flow of the menstrual blood, which first induces women to seek medical advice, and which often precedes graver diseases, tend to show that the menstrual flow has its origin in the tubes?

ARTICLE III.

Removal of Dermoid Cyst from Abdomen.

By Joseph A. Groves, Browns, Ala.

Amanda W., negro, æt. about 30 to 35 years, consulted me in July last, in regard to an enlargement of the abdomen which, upon examination, was found to be a tumor connected with the womb upon the right side, and as it was becoming somewhat painful, and, according to her statement, continually growing in size, we advised its removal.

Early in September the operation was performed by Dr. J. A. Weisinger, with Drs. J. J. Hall, E. B. Mosely, and myself assisting. After making an incision three or four inches long through the linea alba, it was found that the sac could not be emptied through the canula, so the incision was extended to about eight inches, or sufficiently to remove the tumor *en masse*. There were some old adhesions to the omentum, which were torn loose with the fingers, and the tumor was found to be twisted twice upon the pedicle, which was tied with a carbolized silk ligature and returned, the abdominal cavity washed out with a warm solution of bichloride of mercury, closed with interrupted sutures, and antiseptic dressing applied.

Although but little blood, was lost her temperature fell to 96° F., yet with hot applications to sides and feet, she promptly rallied. The anæsthetic used was a mixture of chloroform and ether. There was nothing unusual about the subsequent treatment of the case. On two afternoons her temperature rose to 101° F., but this was controlled by quinine, aconite, and antifebrin. The wound healed throughout by first intention, except a few points where the skin was not in perfect apposition, the patient making a perfect recovery.

The tumor weighed seven pounds, and was closely connected with the ovary and fallopian tubes. The latter, constituting its pedicle, being pervious and much elongated, so that five or six inches of its length were brought away with the mass.

It proved to be a dermoid cyst, and was filled with a dirty looking, odorless fluid in which was floating freely a quantity of unctuous, whitish matter in small lumps and scales, also about a handful of hair from one-quarter to one-half inch long. The hair was such as would have been on the head of a negro fœtus, and the scales such as would have entered into formation of fœtal skull of about the size of a large hen's egg.

In looking into the history of this case, it is found that the tumor was first observed about eleven years before, and had been gradually increasing in size. But the growth was more marked and rapid within the last few years. In the meantime she had borne four children. Two while the tumor was as yet quite small, and two after it had obtained considerable size.

We are not prepared to enter into a discussion of the origin and development of such cysts, but would call attention to the fact, that in this case, the hair and scales were floating freely in the fluid, and a portion of the lining membrane of the sac was discolored, being darker than the remainder. Also that the scales had the appearance of having once entered into the formation of a fœtal skull.

ARTICLE IV.

THE DISORDERS OF MENSTRUATION.

By ANDREW F. CURRIER, M.D., New York.

In a paper read before the New York State Medical Association at Albany, February 6, 1889, the author said: The functions of the body are performed painlessly and without the consciousness of the individual when normally performed. Consciousness of functional action or pain attending it indicates abnormality. Because parturition is painful, it cannot be argued that menstruation should also be, and they who assert that a certain degree of pain is necessary and usual, are asserting opinions, and not facts based upon anatomy and physiology.

Menstruation, in its simplest meaning, is a discharge of blood, epithelium, and glandular secretions from the uterus, mingled with vaginal and vulvar secretions, recurring each lunar month, lasting 3 to 6 days, due to a stimulus which produces congestion of the genital apparatus, and attended by direct and reflex phenomena which probably depend mainly upon the congestion. Many theories of the cause and object of menstruation have been propounded, those of Beigel, Pflüzer, Pouchet, and Goodman, are briefly sketched by the author. The vascular supply of the ovaries is vastly greater than could be necessary merely for nutrition. This and the great plexuses of contiguous veins indicate an arrangement for repeated engorgements. Their great nerve supply, and connections with many of the important organs of the body, indicate their physiological importance and explain the existence of so many so-called reflex disorders. The argument that menstruation is an engraftment upon civilization is plausible only in a very moderate sense. Under favorable environment women doubtless menstruate more freely, and give birth to more and healthier children than in the savage or barbarous condition, just as the analogous fact holds good in stock raising and breeding. Women who are eminently intellectual, however, like George Eliot, Madame de Stael, and Elizabeth Browning are not as a rule prolific, and so it may be said that as the intellect becomes refined and cultivated, it is at the expense of the animal part of the nature with which the reproductive apparatus is chiefly concerned. It would seem more reasonable to consider menstruation the development and perfection of a function which has been observed with greater or less distinctness in almost every variety of animals, the habits of which have been carefully studied. The testimony of Buffon, Cuvier, Saint Hilaire and many other eminent investigators is cited in proof of this statement.

Disorders of menstruation are classified as

1. Amenorrhœa—absence of the menstrual flow.

2. Dysmenorrhœa—the condition in which the menstrual flow is obstructed.

3. Oligomenorrhœa—scantiness or insufficiency of the menstrual flow.

4. Polymenorrhœa—excessive menstrual flow.

5. Atopomenorrhœa—menstruation or a menstrual flow which is out of place or unwonted.

The following general principles are usually admitted:

1. Races or tribes that are least removed from animals most resemble animals in respect to this function.

2. Nervous women seldom menstruate without discomfort. They frequently have dysmenorrhœa or oligomenorrhœa.

3. Influences located in the vascular system may be sufficient to determine great abnormalities in menstruation. A very weak heart may determine a scanty flow, and a very strong heart a profuse one.

4. Great elevations, with diminished atmospheric pressure favor profuse menstruation.

5. A humid atmosphere is frequently a concomitant and probably a cause of amenorrhœa or dysmenorrhœa, or oligomenorrhœa owing to change in the pressure relations between the atmosphere and the fluids and gases in the body.

6. Women menstruate earlier in hot climates than in cold. In tropical climates it is not unusual for the first menstruation to occur between the ages of eight and twelve years.

7. Extreme cold is always unfavorable to the regular and easy performance of the menstrual function.

Amenorrhœa may obtain with those who have passed the menopause whether prematurely or not. It does not strictly apply to those who suffer from retention of the menses. It may be temporary or intermittent. It may produce disturbance of the general condition, but not unless there is a recurring congestion which must find relief or exit. When accompanied by symptoms there may be pain and discomfort in the pelvic region, pain in the loins and head, and perhaps general malaise. It may be due to mechanical obstruction or to the debilitating effect of wasting disease, to humid atmosphere, cold, etc.

Dysmenorrhœa includes cases in which there is an obstruction either mechanical or chemical to the outflowing of the blood, that is, the cause may lie in the blood or in its surroundings. Pain is usually an accompaniment but not necessarily, this being largely a matter of temperament. Besides pain there may be soreness of the muscles or joints, nausea and vomiting, and even violent mental agitation.

It may be due to weak heart action or deficient contractile power of the uterine muscle. It may be associated with sub-involution, with uterine displacements, with obstruction by tumors and obstruction by hypertrophied mucous membrane It may also be caused by various atmospheric conditions. Abnormal constituents of the blood or the normal constituents in great excess, the specific gravity being greatly increased may act as an efficient cause.

Oligomenorrhœa is the condition in which the menstrual flow is insufficient to relieve the pelvic congestion, the term being a relative one. It may persist during pregnancy. It may be due to deformities or want of development of the organs, to uterine displacements, to obesity, or to anæmia. Polymenorrhœa is also a term which must be used in a relative sense, since the loss of a few ounces of blood may bring one woman to the verge of collapse, while another may lose great quantities for long periods without evident distress. It is not a *necessary* accompaniment of the menopause, but its occurrence at such a time indicates underlying disease. Of all forms of menstrual disorder it is the one which calls for the most active repressive treatment. It may be due to various diseases and new growths of the uterus and its mucous membrane. Occupations in which one is constantly exposed to great heat predispose to it, for example, those of cooks and laundresses. Prostitutes and others who greatly abuse the sexual act frequently suffer from it.

Atopomenorrhœa is a term which is offered as a substitute for the inexact and inaccurate expression *vicarious menstruation.* Its synonym xenomenia is etymologically correct, and though suggested by Flamant in 1720 has rarely been used. Displaced menstruation may appear as bleeding from the nose, gums, lungs, stomach, rectum or anus, from nævi ulcers, fissures, fistulæ and nipples; from the anterior chamber of the eye, and the external auditory meatus; or it may appear as an extravasation into or through the skin in the form of bloody sweating, purpura, æna, etc. All these facts tend to show that the monthly congestion in woman is not local but general, or that the vascular tension at such times is so raised that vessels which are near the surface, are much more liable to rupture than under ordinary conditions of tension and pressure.

SELECTIONS.

THE MODERN TREATMENT OF NEURALGIA.—By Landon Carter Gray, M.D., Professor of Mental and Nervous Diseases in the New York Polyclinic. (Written for Section on Practice, T.S.M.A., but was not received in time to be read; published in *The Texas Medical Journal* by authority of writer.)

The modern study of nervous diseases has modified many of the old ideas about the nature of neuralgia, and added many new details of great value in the treatment. For example, the time-honored saying that "neuralgia is the outcry of an impoverished blood," expressed only the incomplete knowledge of the older physicians of a time when the vascular system was held to be the cause of all abnormal phenomena of the human body, and gives emphasis to what the later developments of science have shown to be only one of the many causes of neuralgia, and that, too, a very subsidiary one.

Before considering more immediately the subject of my paper, I desire to lay great emphasis upon the fact that distinction should always be made between neuralgia and neuritis. I scarcely need to remind your learned body that a peripheral nerve is made up of the axis-cylinder, a continuous nitrogenized body running from the central nervous organs to the sensory structures of the periphery; of a fatty sheath surrounding the axis-cylinder, and known as the medullary sheath; and, finally, of a delicate, transparent, connective-tissue sheath, enveloping both medullary layer and axis-cylinder like a glove, and designated as the sheath of Schwann. A neuritis, or inflammation of this peripheral nerve in these three structures—axis-cylinder, medullary layer, sheath of Schwann—causes structural changes which are visible under the microscope. These changes are manifold, and differ in degree according to the severity of the inflammation. In the lighter forms of neuritis the delicate connective-tissue sheath may alone be involved, so that its structure becomes somewhat thickened, and it loses its translucent appearance, becoming more and more opaque; the little cellular bodies, the nuclei, increase in number and size, and take up a greater quantity of the coloring matter which may be used, such as carmine or hæmotoxylin, whereas in health they are very sparse and not easily colorable. In the types of neuritis that are somewhat more severe the fatty layer surrounding the axis-cylinder, the medullary layer, becomes implicated,, and breaks up more or less into its constituent fat, so that it loses its even and continuous appearance, or is dissolved into irregular fatty chunks, or even into actual fat globules. Finally, in the most severe types, the axis-cylinder becomes altered in shape, or becomes partially or entirely disintegrated. The clinical symptoms indicative of these molecular changes, which are known by the name of neuritis, are:

Pain, which is steadily fixed in the distribution of the particular nerve affected;

In the severer forms, a swelling of the region to which the affected nerves are distributed, the swelling being accompanied by a glossy and hot skin;

Often by actual motor paralysis of the muscles to which the affected nerve is distributed.

Neuralgia, on the other hand, is a functional affection, which is unaccompanied by any signs of molecular alteration discoverable in the nerve affected; and the clinical symptom which denotes this functional affection is pain alone, whch may be mainly located in one nerve, but which almost invariably jumps at intervals from this nerve to others in the neighborhood, or to symmetrical ones upon the opposite side of the body.

It may happen, of course, that a long continued neuralgia may lead to neuritis; or it may happen, on the other hand, that a neuritis of the sub-acute or chronic type may begin with symptoms of a neuralgic character. But the differentiation can easily be made as the disease progresses.

Although our knowledge of the causation of neuralgia still lacks precision, we are yet cognizant of a number of etiological factors for whose possible existence in any given case we should carefully examine. We should always search for a history of malaria, and not only for a history of actually existing malaria, but for a history of preceding malaria. If an individual lives in a malarious district, and has distinct malarial attacks, with typical chill, fever and sweating, we are not likely to be thrown off our guard. But it should also be borne in mind, as is not generally known, that an individual may have been subject to malaria in the past, not have any rise in the temperature or chill or sweating in the present, and yet have a distinct periodical neuralgia left as a relic of the precedent malarial condition. For instance, many such cases of neuralgia will come on at regular periods which are just as exact in their arrival as were the full-fledged malarial attacks precedent to them, often in the distant past. All the treatment in the world addressed to this form of neuralgia between these periodical periods is worse than useless, inasmuch as it often aggravates the suffering; and yet they can usually be promptly cured when medicine is directed to them at the proper time. Then, too, the condition known as lithæmia is often the cause of neuralgia—*i. e.*, a condition in which the tongue is coated, the bowels are somewhat constipated, the patient complains of vertigo, various tingling, and abnormal sensations in the extremities. Lithæmia is a very frequent sequel of prolonged malarial infection, is often seen in malarious districts even when no distinct symptoms of malaria are present, and is a frequent phenomenon in individuals who are personally or hereditarily of gouty or rheumatic tendencies. Atmospheric variations, which are so frequent in this American country of ours, constitute another fertile source of neuralgia. Uncorrected errors of ocular refraction occasionally set up neuralgia, such as astigmatism, hypermetropia and myopia; although these causes are not nearly so frequent as certain of our writers would make them out to be.

In any given case, therefore, careful regard should be had to the distinction between neuralgia and neuritis, to a possible malarial infection, to a possible post malarial periodicity, to a possible lithæmia, to a possible exposure to great atmospheric variations, to possible errors of ocular refraction.

If malaria be present, it should be broken up vigorously by means of the usual treatment upon which I need not dwell, and in most cases the neuralgia will then disappear. If there be a post-malarial periodicity, the treatment should be addressed to the periodical attacks alone. Some six to twelve hours before the attack is expected, quinine sulph., gr. v–xx or even xxx should be given, conjoined with morphiæ acetatis, gr. 1/8–1/6, which latter had best be given hypodermically, if that be possible. If the individual be strong and robust, the breaking up of the periodicity will usually cure the neuralgia, and no further treatment will be needed. If the individual be not robust, it may be necessary to follow the treatment, after the periodicity has been broken up, by means of drugs which have been found useful in post-malarial sequelæ. The best of these are arsenic, best given in Fowler's solution, gtt. ii–iii, three times a day, and iron, preferably the tincture of the muriate. gtt. xx–xxx, three times a day.

If lithæmia be present, the patient should be put upon a mineral acid and laxatives. The best acid for this purpose is the dilute nitro-muriatic, of which twenty drops should be given three times daily, before meals, in a wineglass of water, and this continued for two or three weeks. Laxatives should be used gently, so as to cause easy and somewhat liquid movements, but never to purge or to act with watery transudation. If the lithæmia be post-malarial, calomel, gr. i–ii, given at bed time, and followed in the morning, if necessary, with a small dose of a saline, may often be used with great benefit, provided that the patient be strong and hearty, but it should always be borne in mind that calomel may act very unfavorably upon the neuralgia if the patient be weak or debilitated. In any event, the calomel should not be used more than once, or at long intervals. Usually the best preparation, if I may judge from a considerable experience, is the fluid extract of Cascara Sagrada. The great value of this drug is that it can be increased or diminished, according to the idiosyncracy of the patient, with absolute impunity, so that one patient may get all the desired effects from ten drops once daily, whilst another may have to take one ounce three times daily for the same purpose. My rule is to commence with one drachm doses three times a day, telling the patient that I want him only to have one or two easy liquid stools in the course of the day, and then let them regulate the dose for themselves. After this laxative and mineral acid treatment has continued for ten days or two weeks, it may be stopped, and a bitter tonic should be given in place of the acid, and the laxative should only be used accordingly as necessity may arise.

If the neuralgia has been plainly caused by some great atmospheric variation, or by a series of them, the patient should, if possible, be removed to a more equable climate, when it is seen that other treatment has failed.

The errors of refraction should be carefully corrected by means of glasses that should be adapted to the needs of the patient by some competent oculist, and not by the harum-scarum methods of the ordinary shop-keeping optician.

The neuralgia will cease in a certain proportion of cases upon the removal of the above causative factors. Should it not do so, however—and the neuralgic habit often keeps up after a perfectly adequate cause for it has been removed—or should it appear without any of these above-mentioned causes, our treatment must be directed to the malady itself, and then it is that we must make distinction between neuralgia of the tregiminus, of the sciatic, and of the nerves of the trunk and and extremities, as each has peculiarities of its own.

In trigeminal neuralgia, defective teeth should always be looked for and carefully attended to; and in this form electricity seems to be of little or no use.

In sciatic neuralgia, the patient should be put absolutely to bed for a week or two at the commencement of the treatment, for we are dealing with a long and large nerve which is irritated by every movement of the extremity, and here we must carefully search, by a rectal examination, for a possible intra-pelvic tumor.

If these clinical differences be borne in mind, the treatment of these different forms may be the same. It may be laid down as an axiom that pain should be promptly checked until we have had time to directly treat the disease. In every case the affected nerve should be placed absolutely at rest. If the lower extremity or the trunk be affected, the patient should be put into bed and made to quietly stay there. It is utterly impossible to otherwise keep a leg or the abominal muscles at rest. If an upper extremity be affected, it should be carried in a sling, and not used. The most effective drugs for the prompt relief of pain are antipyrin, antifebrin and the alkaloids of opium. In a large proportion of cases antipyrin and antifebrin will do all that morphia can do. Antipyrin should be given in gr. v. doses every hour until the pain is relieved, or a maximum dosage of forty grs. has been attained in twenty-four hours; but in using this drug, the heart should always be carefully examined, so as to avoid administering it in organic valvular lesions, and it should also be borne in mind that it is very depressing in its action in many cases. For this latter reason antifebrin has of late come into use, because it does not depress; yet, I am sorry to say, antifebrin has not anything like the pain-relieving properties of antipyrin, although it is well to make trial of it in any case where antipyrin is contra-indicated. The antipyrin may be given in simple solution in water, and the antifebrin may be given either in pill or suspended in some musilaginous mixture. Should neither antipyrin or antifebrin completely or promptly check the pain, resort must be had to morphia, unless the character of the patient is such that the morphine habit is to be feared, and even then it may often be given in such a shape that the patient is not aware of what is being taken. The form of morphia to be used will vary accordingly as the neuralgia is of the trigeminus, of the extremities, or of the abdomen. For abdominal neuralgia a combination of the sulphate of morphia with atropia is the best form, such as is combined in the hypodermic tablets put up by many houses and containing morphia sulph. gr. ⅛ and atropia gr 1-200. For the neuralgia of the extremities and the trigeminus a solution should be made of the acetete of morphia, of such strength that each drop will contain gr. ⅙, and this will keep best when a small quantity of carbolic acid is added to it. Either form of morphia is best administered hypodermically, although this is not absolutely necessary, and a dose should be gr. ⅛–⅙.

Quinine and galvanism, when properly administered, will relieve pain quite as effectively as these analgesics, but they will do it much more slowly and gradually, although often more effectively. An occasional dose of quinine should be given at bed time, say gr. v in capsule, and this should be continued for two or three nights and then stopped, only to be renewed occasionally when there is a relapse.

Galvanism is the most effective agent that we have for the final relief of neuralgia of the trunk and extremities, although it does not seem to have much effect upon neuralgia of the trigeminus. To apply galvanism properly it is necessary to have a good battery, a measuring apparatus, and proper electrodes. There are a number of galvanic batteries to be had, but the most of them require to be filled so often as to be very inconstant in their current, and it is difficult at any time to know how much electricity is actually flowing. I consider the chloride of silver battery to be the best, most constant, and most portable that is made. A measuring instrument, graded into the electrical units which are known as milliamperes, and which is called a milliampere-meter, can now be had in this country of very excellent make, and is indispensable in determining the amount of current that is passing at any given time. It is impossible to give directions by indicating the number of cells, because the cells vary so much from day to day, accordingly as they have been filled or not, except in the case of the chloride of silver cells, which give forth a constant current for upwards of two years without need of repair; and even with this latter the varying conductivity of the skin in different individuals will allow a greater or lesser current to pass in one person than will pass in another. Nor is the sensation of the patient any guide as to the amount of the electrical current, because that sensation may be heightened or decreased in cases of neuralgia. We must therefore grade the current by one of these measuring instruments, one of the milliamperemeters, if galvanism is to be used with any precision. The electrodes should differ in size according to the part of the body to be galvanized. One pair should be about 5 x 6 inches, another one should be 4 x 2 inches, and a fourth one should be of round shape, of 1 inch diameter. These electrodes should be carefully covered with a fine, closely cut sponge, or with absorbent cotton, fastened with a small elastic band.

Whenever they are applied, the skin should be well moistened with hot water, and the electrodes should also be thoroughly saturated in this, in order to diminish the non-conductivity of dry skin and dry sponge or cotton. Furthermore, in order to apply galvanism properly, it is necessary to study the so-called "motor points" which have been mapped out of late years by electricians, and a chart of which can be found in any of the electrical text-books. These motor points, as is well known, are spots where the nerve-trunks or muscular nerve-filaments are most superficial and most readily attacked by the electrical current. Turning on a current from ten cells, one of the larger electrodes should be placed upon the skin, moistened as above, at some distance from the motor point of the affected nerve, and then a smaller electrode, the one of three inches diameter, should be gently and gradually placed upon this motor point. If the current then be unfelt by the patient, it should be gradually increased until about ten milliamperes are seen to pass. Even if not felt then, it should not be pushed further; but if the patient has a painful sensation in the affected nerve from a lesser current, the strength of the current should be diminished so as to give no pain at all. The best spot upon which to place the large electrode not used upon the motor point is the sternum. The current should be passed for about five minutes, and every day, unless it is thought that every other day will answer the purpose. After the motor point has thus been treated, the two large electrodes should be well wet with water, and one applied in the nape of the neck, whilst the other is put over the lower dorsal spine, the skin having first been well wet with hot water, and a current of ten to fifteen milliamperes passed for three times at the first sittings, then for five and ten minutes in subsequent sittings. In using these large electrodes, great care should be taken to first put one in place and then bring the other down upon the skin very gradually and carefully, so as to avoid any shock, and the same precautions should be used in taking them away. Often, too it will be found very useful to apply one of the large electrodes at the upper part of the affected limb and the other at its lower part. The great advantage of galvanism is that it can be given in these doses for almost any length of time with perfect impunity, provided that care be taken in the manner indicated to avoid shocks from sudden interruptions of the flow of the current.

As the quinine and galvanism and the rest manifest their effect upon the neuralgia, the analgesics should be entirely removed, and at this stage of the treatment it will usually be found extremely useful, unless the individual be full-blooded and red-blooded, to make free use of iron, best of the dialized iron in one drachm doses, three times daily, after meals, in half a teacup of water. In young individuals, in the colder months of the year, cod liver oil may also be of great use.

A PLEA FOR OPERATIVE OR RAPID DILATATION OF THE CERVIX UTERI.

By T. Johnson-Alloway, M.D., Instructor in Gynæcology, McGill University; Assistant Surgeon to the Montreal General Hospital; Gynæcologist to the Montreal Dispensary.

Up to within four or five years ago steel uterine dilators were regarded by surgeons with a shudder somewhat akin to that experienced by visitors to the Tower of London when shown the "thumbscrew" and other ancient instruments of torture. They saw in it a powerful render asunder of vital tissues, and that such traumatism must be followed by dangerous inflammation. It was not however thought, that forcible dilatation of like nature was practiced as the safest method of opening deep-seated abscesses situated in equally vital parts. On the other hand, gradual dilatation by tents was regarded as an easy procedure, and within the province of every busy practitioner. In fact, the practice became so general with physicians that it was considered equally as necessary to have nicely assorted sizes of sponge, tupelo and tangle tents, as it was to have a pair of obstetric forceps. As a consequence of this, unfortunate women were required to undergo intense suffering, and were often destroyed through the intervention of septic peritonitis. The employment of such methods in the past was justified only on the ground that no better were known at the time. This justification can, however, no longer hold good, and I will endeavor to show, in as short a space as possible, why the more scientific, humane, and safe method should be employed in preference to the older and more dangerous.

In days of our first endeavors in the practice of medicine, when each man estimated his prosperity and public value in accordance with the number of visits he was able to pay during the current twenty-four hours, he had of necessity quite a number of patients suffering from uterine complaints. The majority of these patients suffered from endometritis in some form or another. The treatment adopted in these cases consisted in forcibly pushing a tent as far as possible into the cervical canal, allowing it to remain there for twelve to twenty-four hours, then violently pulling and twisting it out with the view of tearing away the diseased granulations. The whole canal to the fundus uteri was then swabbed out with nitric acid, or some such escharotic. During the time this method of treatment was being carried out the suffering these poor creatures underwent could be endured only by women. The burning-hot-plate treatment, with the aid of opium, was kept up for twelve hours at least to offset the suffering caused by the gradual distension of the tent in the inflamed cervical canal. And this probably in a patient with a chronically inflamed and tender parometrium, a perimetritis, and other diseased conditions of the uterine appendages. In fact, it is appalling to one to reflect upon the amount of misery and suffering which must have been inflicted upon women during the tenting period of gynæcology. It would be impossible to estimate the number of induced attacks of acute pelvic inflammation which have occurred during this period. Many deaths have also occured, and a majority of these I believe to have been due to a latent form of tubercle lighted up suddenly by the violence of the treatment into a fatal attack of acute tubercular peritonitis. I have seen post-mortem cases of the kind, and I am sure others have seen the same. We know how common tuberculosis of the peritoneum is in tubercular women, and how latent and unobserved it will remain until accident happens to kindle it into an acutely fatal disease. From a careful consideration of these facts I feel convinced that many so-called delicate women have been killed prematurely by the use of tents and escharotics in the treatment of chronic uterine disease. Of the many deaths occurring from this method of treatment a few have been reported. In the *Amer. Jour. of Obstet.* 1881, page 666, is reported a case by Dr. W. T. Lusk, of death from septicæmia following the repeated introduction of sponge and tupelo tents. At the same meeting Dr. T. A. Emmet spoke of a case in which septic peritonitis followed the use of a sponge tent, the disease developing on the seventh day after its introduction. Dr. Emmet said that he had come to feel that he almost took the life of the patient in his hands when he used a sponge-tent. At the same meeting Dr. Janvrin showed the specimen of a case in which pelvic cellulitis, abscess and death followed dilatation by a tupleo tent and stem pessary. During the discussion on these cases it was universally thought that the prolonged local irritation, together with the introduction of septic matter, was the direct cause of trouble.

In the same journal (1885), page 952, Dr. C. C. Lea reports a case of perforation of the cervix uteri by a laminaria tent. Dr. Mundé also also spoke of similar cases. And in the issue of 1888, Dr. C. C. Lea presented a specimen of a case of death due to septic peritonitis following dilatation of the cervix uteri by laminaria tents. Without going any further into the misfortunes of tents in general, we may ask ourselves, why has dilatation by tents been so much practiced during the past twenty years when death or destruction of health has always been considered in the balance? I can only answer such a question by repeating Emmet's conviction above quoted, "that he always, when using tents held the patient's life in his hands;" and Marion Sims' statement that he never used them when he could possibly avoid it, and never applied them without apologising to the patient for the very unpleasant effects they produce. Sims also stated that he who gives an efficient, safe, and pleasant substitute for tents will confer a great boon on surgery. Marion Sims' book, "Uterine Surgery," written in 1865, undoubtedly has been responsible for the great generalization of the practice. He, however, tells us that it is necessary, before using them, to explain to the patient (1) that the tent may possibly cause some uneasiness; (2) that it will certainly produce a dirty, disagreeable, bad-smelling discharge; and (3) that it will be necessary to see her in six or eight hours to remove the tent and probably to introduce another.

Judging from such advice to his patient, from such a man, the use of the tent in gynæcology could only have been justified by the general status of surgery at that time. Sims, in his honesty of purpose, knew that it was a dirty, bad smelling, dangerous thing, and felt that improved methods would surely come.

The reason of the fœtid discharge from the uterus after removal of the tent is because the operation has been a septic process. It is absurd to think that tents can be made aseptic by any process whatsoever. The instrument makers are responsible for nothing but the shape and the size of the tent, notwithstanding how positively they assure us that those of their special make are aseptic.

It is not my intention to describe precisely the operation of rapid dilatation of the cervical canal by means of the steel dilator, but I *do* wish to speak of the great advantage of the operation over the gradual or tenting method. To perform rapid dilatation it is necessary to see the operation done, there are so many important details in connection with it. The patient should be profoundly under ether. The instruments which give the best satisfaction are Sims' glove-stick dilator and the Ellinger-Goodell serrated dilator. These instruments can be thoroughly boiled and otherwise prepared before using. The vagina is washed out with soap and warm water, and then irrigated with 1-1000 sublimate. The operation can be combined with that of incision to any degree the operator determines upon. My experience has led me to think that the combination is a good method, better probably than simple dilatation as practiced by Goodell. I have now performed the combined dilatation and incision so often, and under varied conditions of the pelvic organs, without having had an interruption in recovery, that I feel convinced the operation should have absolutely no mortality.

This short report is not intended as an essay upon dilatation of the cervix uteri, but as a warning and protest against the use of the dangerous tent. Before closing, however, I must not forget also to protest against the half-hearted sort of tampering with steel dilators, so often adopted in office practice, before making uterine applications of caustics. This practice is most iniquitous, and more cases of pelvic inflammation have followed it than has been credited with. The vagina in such cases cannot be properly cleansed, the uterine tissues are resisting without anæsthesia, and any lacerations made are direct inlets of infection to the lymph spaces and vessels. Put your patient thoroughly under ether, conduct the procedure as you would a laparotomy, and avoid tampering with patients' lives to suit a little personal convenience on your part.

ORIGINAL ABSTRACTS.

By Dr. KIRKLAND RUFFIN, Norfolk, Va.

ABSTRACT OF A PAPER "ON OUR EXAGGERATED ESTIMATE OF THE VALUE OF BEEF-TEA," By Thomas Laffan, M.K.Q.C.P.I. (*British Medical Journal*, January, 26, 1889).

After speaking of the immense sums expended annually on beef-tea and the very common and almost universal use of it, the author goes on to speak of the actual value of it, viewing it from a double standpoint: first, as a nutrient; secondly, as a mere stimulant and flavorer. "It is in the first category that it has been placed by so many of us. With regard to its value as a nutrient, we may fairly take Liebig for our authority. His every interest was in favor of exaggerating its merits, and his eminence as a chemist specially qualified him to offer an opinion. He states that the greatest care is taken to exclude from his extract all fibrin, gelatine, albumen, and fat. He further adds that its component parts do not give strength when there is none, and that it merely acts upon our nerves so that we become conscious of our existing strength. The same authority confesses that to extraction and salts is due all the value it possesses; that it is to be classed with tea and coffee; and that it neither economizes carbon for our temperature, nor nitrogen for the sustenance of our tissues. As to the difference between ordinary beef-tea and his extract of meat, he merely claims for the latter that it contains less water than the former. Another standard authority Mr. Sée, tells us that beef-tea contains very little albumen and very little carbo-hydrates.

We have in it kreatine, kreatinine, carmine, inosite, and other quaternary products which so entirely resemble, or are so nearly allied to, those found in urine, that their small value hardly admits of question; and it is but matter for surprise that they show so striking a family resemblance in odor between the two. Patients, to my knowledge, have oftentimes rejected their alleged "nutrient" on account of the striking olfactory relationship between it and urine. The saline matters alone, *plus* the hot fluid, are therefore left to play most considerable, if not the only *rôle* in the value of beef-tea. Further, Mr. Sée admits that if with a convalescent the strongest beef-tea should replace milk, the result would be disastrous. Similar views have been advanced in this country, and the names of Hassell, Sibson, Wilberforce, Smith, Brunton, Masterman, and others may be cited in support of them."

He then speaks of the occasional soporific effect of beef-tea, and states that Dr. Brunton found that the urine of a healthy man contained all, or nearly all, the albumen he had digested but a few minutes before. Dr. Hassell long ago showed that 14½ lbs. of beef would be required to yield beef-tea enough to supply the nitrogenous daily waste of one individual, calculating that such waste amounts to 512 grains of urea and 21 of uric acid daily.

Experiments made on dogs have brought out the remarkable fact that they die sooner when fed exclusively on Liebig's extracts than when left unfed. He gives three methods of making beef-tea: first, the heat is kept below the coagulating point of albumen; second, the heat is carried above the coagulating point of albumen; and third, the meat is only macerated and no heat applied which extracts a larger percentage of juice than by using heat. "When treated by cold water, the meat yields up, according to Liebig, 60 parts per thousand, and under boiling water, only 30 parts per thousand." He notices as a curious fact that patients soon tire of and after a few days absolutely detest even the best beef-tea, if it be given in quantities of a pint or two in the twenty-four hours.

If beef-tea, then, afford us such small aid, let us see what aids we can summon for the sustenance of the patient who is temporarily incapacitated from using the ordinary solid food meat. The first and chief resource seems to me to be milk, the richness of which in albumen, fat, sugar, and salts marks it out as pre-eminently suited for the supply of the necessary nutriment during what we call the interregnum. The digestive weakness which hinders the use of solid meat is a mere approximation or return to that of the infantile state. We know that the wants of this are fully supplied by milk; we know also that this is the only nutriment with which its powers are able to cope.

The next substitute for the system of alimentation by beef-tea is that with which Trousseau's name is associated. It is that of minced raw meat. He states that it is hard to see limits to the cases to which its employment may not be applicable when we find that it is successfully employed in superficially inflamed states of the intestinal canal as in infantile cholera of summer, and he thinks the use may be extended when we remember that Kühne has found that raw albumen and fibrine is discolored by the intestinal juice, whereas boiled albumen and fibrine is not, unless acted on by the pancreatic juice.

"Lastly, we have rectal alimentation to supplement any deficiencies of mere fluid ingesta," and he then refers to Dr. Peaslee's and Dr. Flint's success in using this means.

ABSTRACT OF A CLINICAL ADDRESS ON VARICOCELE, WITH REFERENCE TO ITS RADICAL CURE. By Wm. H. Bennett, F.R.C.S., the *Lancet*, February 9, 1889.

Varicocele is here defined as "a condition of varicosity of the veins of the spermatic cord, of congenital origin, resulting in or associated with a deficient development or functional imperfection of the corresponding testis in the majority of cases." Clinically, the affection does not come under observation when there is sufficient enlargement or discomfort to call attention to the part. The pain is by no means in proportion to the size of the varicocele in all cases. The affection is nearly always on left side, sometimes on both sides, and very rarely only on right side. When limited to left side, it may be the only evidence of varicosity in the body; when occurring on both sides, there is always more or less varicosity of the veins of both legs. He believes the origin of the disease always to be congenital, but says that constipation often exaggerates the condition. The disease rarely comes under observation before puberty, and is often then discovered by accident; and, with the exception of the cases aggravated by constipation, there is rarely any discomfort or inconvenience until after the exercises of the sexual functions. The subjective symptoms arranged in order of frequency are as follows: 1. A sensation of dragging or heaviness. 2. Pain, continuous or intermittent, at times amounting to acute neuralgia. 3. A curious condition of mental anxiety. 4. Tenderness.

From his own observation, he believes that unless a varicocele becomes troublesome before the age of twenty-five, it seldom becomes troublesome at all (except in cases of severe constipation or excessive sexual indulgence) until quite late in life when it is generally due to a gouty thrombus in the varicocele. But men who have had a varicocele all their lives frequently ascribe to the varicocele the loss of virile power, when it is only the outcome of the natural cessation of sexual functions. In some cases there is neither pain nor discomfort, but in a few when the patient is aware of the unnatural condition, a state of mental distress is the result. In such cases, the symptoms complained of is the occurrence of profuse seminal emissions, though they may be no more frequent than in health. Many cases come for treatment because of being rejected for the army or navy.

In many cases the testis on affected side is smaller or softer than on healthy side, and is due to a non-development and not to a "wasting," although the term is used by many surgeons. The affected testis is also often impaired in function and, while of not much importance when only one testis is affected, it is a serious consideration when both are affected. In a majority of cases after the radical cure by operaation, the testis becomes normal in size and appearance and the function returns.

In the majority of cases the only treatment required is an adequate suspender and avoidance of constipation. The author considers the old-fashioned washable linen suspender, made of a boat-shaped piece of linen, which hangs hammock-like from two tapes, one attached at either end, by far the best and most cleanly of all suspenders. He has had no good result from the use of the light truss except in cases complicated with hernia. For the cases in which there is much mental anxiety, he has found a pill of phosphate of zinc and nux vomica quite useful, but the bromides have proved useless in his hands.

The following are the cases in which an operation is expedient.

1. Cases in which the varicocele has led to a rejection of the candidate for the army or navy. 2. Cases in which the mere size of the varicocele is sufficient to lead to risk of injury, or causes enough inconvenience to make the patient seek relief. 3. Cases of double varicocele with marked impairment of testicular function. Operation may be rendered necessary by following symptoms. 1. Pain which is not curable by other means. 2. Tenderness (excluding cases of thrombus). 3. Rapid increase in size, independent of causes outside of disease.

itself, *e. g.*, constipation, hernia, etc. 4. Mental anxiety which cannot be cured by other means.

The operation may be divided into two classes: the "subcutaneous" and the "open" method. The "subcutaneous" methods are open to objection chiefly on two accounts: first, the uncertainty of its results; second, the occasional risk which is entirely beyond the control of the surgeon. The uncertainty of the result is due to the difficulty in including with absolute certainty *all* the veins in the ligature—a proceeding positively necessary for a permanent cure. The risk referred to is the possibility of one or more veins being transfixed, which accident may produce disastrous consequences.

He considers the "open" method simple in practice, certain in result, and under antiseptic precautions, devoid of risk. The essential part of the "open" method is the formal exposure by dissection of the portion of the varicocele above to be subjected to the operation for radical cure. The obliteration of the veins thus exposed is accomplished by one of the following methods: (1). by encircling the veins by a single ligature; (2), the complete division of the veins between two ligatures; (3), the excision of a portion of the varicocele previously included between two ligatures. He has had one failure in method No. 1, because he used gut for the ligature and it was absorbed too soon. He now recommends tendon to be used for such a purpose. He recommends either first or second methods when varicocele is small and the cord very slightly elongated, but otherwise he used the third method in order also to make spermatic cord of normal length, and thereby rendering a suspender unnecessary. He describes the operation No. 3 as follows: The patient is anæsthetised, and the veins then made prominent by grasping the varicocele between the finger and thumb of left hand, the vas deferens being at the same time pressed back out of harm's way. Through the skin, over the prominent veins, an incision is made not more than an inch and a half long. The incision is carried down to the thin fascia (immediately surrounding the varicocele) through which the vessels can be clearly seen. The knife is now laid aside, the vein not having been actually *denuded.* Carbolized tendon is then passed round the fascia, with its included veins, and drawn down to a point as near its testis as is thought proper; it is then securely tied, its ends being left long. The varicocele above the ligature is then freed, together with its sheath, from the surrounding parts for a distance sufficient to allow the amount to be excised necessary to leave the cord of normal length when the cut surfaces are brought together. A second tendon is now passed around the upper part of the freed veins and tied in a *single* knot only, which is kept tight by an assistant. The varicocele between the ligatures is now divided (about a quarter of an inch from each ligature) and removed. The upper ligature is now finally tightened and tied, the ends being left long. Irrigate the wound, secure all bleeding points, and then bring the stumps together by knotting the ends of the upper and lower ligatures, thus at once raising the testis to normal level. Then cut off ends of ligatures quite short. The edges of the skin pull together and there is no use of sutures or drainage tube; only a good antiseptic dressing.

By leaving the sheath of fascia, which immediately surrounds the varicocele, intact, and including it, with the veins, in the ligature, two objects are obtained: (1), the certainty of passing the tendon around all of the affected vessels, as nine of these even lie outside the fascia; and, (2), the prevention of any material chance of recurrence of its abnormally dependent position of the testicle. The performance of the final tightening and knotting of the upper ligature is important, as there is risk, if the tying be completed before the division, that the shrinking of the veins which follows the escape of blood contained in them, may result in the ligature becoming sufficiently loose to allow an oozing of blood into the wound or even permitting the stump to escape altogether from the ligature. Every care must be taken to avoid oozing, as formation of clots delays recovery. A fine gut suture may also be passed through the extreme edges of the stumps if thought necessary to secure apposition. Generally, the wound heals in four or five days, and the patient may be allowed to get up at end of a week, although the swelling does not entirely disappear by the end of a month, until which time a suspender is to be worn. There is little or no pain after the operation. Œdema of scrotum may last for two weeks.

Mr. Christopher Heath in his recent Presidential Address before the London Clinical Society, protested strongly against the positiveness of the pathologist, and said that he would be very loath to classify a case as one of "malignant" disease because the tumor showed microscopically, an appearance which brought it into the class of sarcomata, unless he knew fully the history of the patient, both before and after operation. After citing some interesting cases from his own practice, he goes on to say:—"I venture, also to enter a protest against the idea that malignancy, of a tumor, so far, at least, as concerns the necessity for its prompt removal in any given case, can only be settled by microscopic examination. If the surgeon, with the patient before him, and with a full history of the growth of the tumor, cannot make up his mind whether it ought to be removed or not without previously extracting a small portion for microscopic examination, I venture to think he has mistaken his vocation. Clinical experience alone will guide the surgeon satisfactorily as to the cases he ought or ought not to interfere with."

He believes incorrect deductions are now drawn because the number of cases now recorded in full detail is too small, and consequently he suggests this field for work. He thinks that probably the recurrences after operations for cancer in these days of antiseptics, are more rapid than when profuse suppuration probably eliminated any particles of disease which were left by the knife. He states that Mr. Swain, of Plymouth, had abandoned stitches after removal of the breast because he had noticed a tendency to the recurrence of the disease in the little scars caused by them.

He also thinks that surgeons of the present day are apt to unnecessarily prolong an operation by minute dissection, and thereby, cause more shock than is necessary. He recommends the use of the left hand more to make traction and to divide the tense strictures with the other. Of course, he does not decry careful dissections in appropriate cases—as in ligation of large arteries. To lessen the shock after large operations, he injects into the rectum with a long tube two ounces of whiskey and four of hot water half an hour before the operation. Before the patient leaves the table he recommends the subcutaneous injection of from gr. ¼ to ½ morphine, and gr. 1-120 atropine.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.—Dr. James B. Hunter, of New York, read a paper on "Vaginal Hysterectomy." Two points must be considered in the discussion of such a subject: one as to the immediate result of the operation, and the other as to its permanent result. Both must be good, in order that the operation may hold position as a justifiable surgical procedure. It has been decided for some time by comparative statistics that the immediate results are not worse than those of many other major surgical procedures, and the recently published statistics of Secheyron seem to show that the permanent results in many cases are also good. The dangers of the operation arise from shock, hæmorrhage, peritonitis, and septicæmia. As to the first of these, rapidity of operation seems to lessen the danger of shock in this, as in other serious gynæcological operations. The dangers from hæmorrhage have also been greatly reduced since the introduction by Péan of hæmostatic forceps for clamping the broad ligaments. These are not only far easier of operation than ligatures, but they are also more efficient and safer. In twelve hysterectomies, in which the clamp forceps have been used by the speaker, only two deaths have occurred. The details of the operation, as given by the reader, did not differ materially from those which are given by various operators. He advocated the use of creoline in a 2 per cent. solution as a dressing, and also the use of creoline gauze as a vaginal packing subsequent to the operation, though this packing was not used from fear of prolapse of the intestines, which seldom occurred. If the ovaries or tubes came into view during the operation they might be removed, otherwise they need not be disturbed. If clamp forceps were used, ligatures were seldom necessary, and as many as fourteen clamp forceps could be used if conditions required them. It was important to tie the handles of the forceps together as a safeguard against slipping. The gauze was usually left in the vagina four days, and then the forceps might also be removed. The reader did not think it necessary to close either the vaginal or the peritoneal wounds, and additional time would thereby be saved. In none of his cases had there been either hæmorrhage or infection. He had not used the cautery as a hæmostatic, as he had never found it necessary; there was also some danger in its use to the intestines and other structures. There was little discharge from the wound during the first week, and still less during the second. Patients were sometimes able to be about by the beginning of the third week. The hæmostatic forceps favor drainage, there is less danger to the uterus than with the ligatures, and they enable one to destroy the diseased tissues which are not always accessible to the ligature. The longest forceps are not always best, those with a bite of an inch and a half are sufficiently long, and one need not try to take in too much tissue with a single instrument.

Dr. Thomas A. Emmett believed that an important point to consider was the duration of immunity from a recurrence of malignant disease which was to be obtained by such operations. If immunity could be obtained from two to four years, as it frequently was, he believed the operation was justifiable. Personally, he was inclined to favor the supravaginal amputation of the cervix as sufficiently radical, and had obtained good results from such operation. He thought the radical operation was indicated in sarcoma, while it was sometimes questionable in carcinoma. He was much in favor of an abdominal operation for extirpation of the uterus, a modification of Freund's operation, which had recently been performed by Dr. L. A Stimson.

Dr. Andrew F. Currier thought there must always be a difference of opinion among operators as to a preference for a partial or a complete removal of the uterus for cancer. One's conduct in such matters would be largely influenced by personal experience and predelictions. Another indication for the operation of hysterectomy was obstinate prolapse of the uterus, especially in women who had passed the menopause, and in whom other measures for the relief of this condition had failed. The point which was advanced by the reader of the paper as to the value of the hæmostatic forceps in shortening the duration of the operation of hysterectomy, was a valuable one, and one which could be readily appreciated by one who had experienced the great difficulties which were sometimes experienced when the ligature was used. As to the instruments which were useful in performing the operation, the speaker favored those which were used by Martin; viz., the perineal retractor of Simon, lateral retractors, and a volsella in each lip of the cervix for drawing down the uterus.

Dr. Andrew F. Currier, of New York, read a paper entitled "The Disorders of Menstruation."

Dr. T. Jacobi had seen many cases of so-called vicarious menstruation in young girls, manifested especially in the form of nose bleed. He did not think this bleeding was always due to disorder of the pelvic circulation. It frequently came from heart weakness, especially in the case of school-girls, who sat for hours at their tasks. He believed that in such cases treatment should be directed to the condition of the heart, and digitalis, sparteine, or strophanthus, in suitable doses, should be prescribed. He asked the reader of the paper what he would do to restore or to establish the menstrual flow in such cases.

Dr. C. E. Lockwood, of New York (communicated), thought the special point in the paper was the improvement in the nomenclature of the symptoms heretofore expressed by the old terms "amenorrhœa," "dysmenorrhœa," "menorrhagia," and "vicarious menstruation." These have been loosely used to express a number of symptoms of, in great part, general and local structural, and in small part functional, disease. They are largely symptomatic, and the names are unmeaning and indefinite in many connections in which they have been used. Etymologically, amenorrhœa means absence of the monthy flow; but it has been used not only in this signification, but also as expressive of defective or scanty and vicarious menstruation. By menorrhagia is understood profuse monthly flow. Any suggestion which will reduce these terms to greater definiteness and system, and convey to the mind the condition and its etiology, is of value.

A paper by Dr. Henry C. Coe, of New York, entitled "The Early Recognition of Cancer of the Cervix Uteri," was read by title. The following is an abstract:—

The great frequency of cancerous disease of the uterus should impress one with the necessity of diagnosticating the disease before it has made such progress that operation for its relief is unavailing. The frequency of laceration of the cervix is also generally recognized, and it is strange that the serious consequences which may result from it should be so often overlooked. It would be well if general practitioners could impress upon the minds of their patients the importance of examinations for the timely discovery of such lesions. The writer agrees with Lusk in his opinion as to the valuelessness of the old classification of cancer into medullary, scirrhus, and colloid,—names which refer only to certain conditions of sight and touch, which are too often imperfectly appreciated. The importance of cachexia, hæmorrhage, and foul discharges has also been over-estimated in the formation of diagnoses. In more than 20 per cent. of the recorded cases of this disease the patients have been under 40 years of age. Pain is an element, also, which may not appear until late in the history of the disease. Various tests have been mentioned for the recognition of the disease in its early stage, but the writer would rely principally upon a general sclerotic condition of the hypertrophied cervix, associated with bleeding from the everted mucous membrane. The uterus is usually movable at this stage, and the cervix unsensitive, though tenderness is more frequently present then than after ulceration has occurred. Inspection of the diseased parts at such a time adds little to the information obtained by the touch. Stratz speaks of a sharp line of separation betwen the diseased and healthy tissue which may be seen at this early stage, the former occupying a somewhat higher level, while scattered through the latter will be seen yellowish-white nodules, which on section present a granular appearance. These phenomena are not constantly present, however, and are manifestations of that form of carcinomatous disease which begins with nodules beneath the mucous membrane. Schroeder believed that every papillary growth on the cervix with a broad base was cancerous, but that papiliary ulcers surrounded by a zone of follicles were usually benign. Removing a portion of suspected tissue for microscopical examination is an excellent plan, but it does not always enable a pathologist to advocate with positiveness so radical an operation as hysterectomy. It may be necessary to examine many sections from many specimens before positive conclusions can be reached.

Waldeyer's definition of cancer as "an atypical epithelial new-growth" has been shown by Fie to be insufficient, as the same atypical cell process may be seen in sections of simple erosion. The process must not be limited to mucous membrane, but must invade the muscular tissue so that the muscle is partly replaced by granulation tissue in order that a positive diagnosis of cancer may be made. Diseased tissue being discovered, the only proper course of treatment consists in its thorough removal. This operation may be performed by any general practitioner who is competent to perform Emmet's operation. A more radical operation than simple excision of diseased tissue should, of course, be performed in any case in which it is clearly indicated.

The following is an abstract of a paper read by Dr. Willis E. Ford of Utica, N. Y., on "Galvanism in Gynæcology:"—

If a constant current of electricty be passed through living tissue, certain changes are brought about, due partly to chemical decomposition and the separation of the fluids of the tissues, and partly to a change in the nutritive processes produced by polarization of the ultimate molecules of matter. The results obtained depend wholly upon the character of the current used. From the study of electricity itself and a proper appreciation of the various qualities of a current, as much may be expected as from the study of the morbid conditions for which it is prescribed. Dynamic electricity of great volume or *ampèrage* is capable of great destructive power, just in proportion to the quantity of zinc acted upon within the battery. While such a current may be capable of producing cautery effects, it will not push its way through dense tissue for any distance. For this purpose a number of independent elements connected in a series is necessary. The *voltage*, or the pressure power, of a current is as important, therefore, in therapeutics as is quantity or *ampèrage.* It has been found that a current that is strong enough to push its way through a fibroid tumor of the uterus as large as a cocoanut, must possess the pushing power or tension of from twelve to sixteen volts. If, therefore, the battery used for the purpose of dispensing fibroid tumors has this requsite *voltage*, the *ampèrage* may vary within certain limits and yet good results be obtained. A battery with large cells gives no greater *voltage* than a battery with small cells and small elements, while the *ampèrage* of the battery depends wholly upon the size of the elements used. The reader was convinced that one of the reasons why galvanism is not more generally and successfully used is that portable batteries, or batteries having but a single fluid, as they are constructed by the instrument-makers are wholly inadequate for the purpose. The two fluid batteries, on the other hand, are so expensive that few practitioners possess them. The ordinary bichromate-of-potash battery, which is unquestionably the best form of battery, will answer every purpose if the cups in which the elements are immersed are sufficiently large that the current may not run down. Such a battery of fifteen cells, holding a quart each, with some simple contrivance by which the zincs and carbons can be readily lowered into the fluid, makes a most perfect instrument for gynæcological practice, The *ampèrage* or volume of a current is easily regulated by the depth to which the zinc and carbons are plunged in the fluid, while the tension or *voltage* or pressure of the current is regulated by the switch-board, depending entirely uopn the number of cells used. The foregoing description has been thus minute, since the results in the practice of the reader have seemed to depend largely upon the quality of the current. A galvanometer is of but little service, while a set of Brenner's resistance coils attached to the cabinet batteries is rarely used, the milliampèremetre being the chief guide. The volume of the current may be so large, however, that the latter is not always a safe guide; for instance, if a current from twelve cells is used, and the elements have an exposure to the fluid of forty square inches each, great care must be taken to prevent the vaginal electrode from cauterizing the tissue, even if the milliampèremetre marks but one hundred or one hundred and fifty. There seems to be no guide other than experience regarding the safety of currents of large *ampèrage*. Where twelve or more such cells are used, the reader had found it unsafe to have more than twenty square inches of zinc surface exposed in each cell, if the fluid is fresh. If pain is produced by the electrode in the vagina, it is evident that the limit of intensity has been reached. If the electrode is held firmly against a fibroid mass, and the voltage is increased until the milliampèremeter marks one hundred and fifty to two hundred, and there is still no pain in the vagina, no harm will be done. In removing the products of circum-uterine inflammation, a current of large *ampèrage* will be the most efficient; that is, about one hundred milliampèremetres. The author's first paper upon the effect of galvanism in peritoneal adhesions was published in the "Medical Press" of Western New York for April, 1888, and stated what was believed to be entirely new at that time; namely, that peritoneal adhesions about the pelvic organs and even about the abdominal viscera can be effectually removed by means of the stronger galvanic current. These conclusions were reached from the behavior of fibroid tumors under treatment in cases in which there had been localized peritonitis with fixation both of the tumor and of the adjacent organs. Pain was speedily relieved, and the tumors became movable even before there was any preceptible diminution in their size. This occured so uniformly that it seemed evident that galvanism must be an efficient agent for the removal of organized inflammatory exudates. In the paper referred, fifteen cases of fibroid tumor were reported and four of peritoneal adhesions. Further experience has led to a modification in the method of using this agent, and also to the conclusion that the current used ought not to be the same in cases of chronic pyosalpinx as in the denser fibroid tumors. In the latter it has usually been found that a current generated from small cells, and having therefore comparatively small *ampèrage* but high *voltage*, is the most useful. On the other hand, the same currents when passed through a mass of exudative material surrounding or near the uterus has, in several instances, excited a new inflammatory process, and has not secured ready absorption; as in cases in which the current had greater electrolytic power, and in which the milliampèremetre marked only eighty to one hundred. That a proper current of galvanism will stop the growth and diminish the size of uterine fibroids is no longer questioned; but how much may be accomplished by this agent in the removal of products of inflammation has not yet been fully determined. The author used galvanism in sixty-four cases during the year 1888, thirty-one being hospital and thirty-three private cases. Of these, nineteen were fibroid tumors of the uterus, eleven being subserous, four submucous, and four intra-mural. There were five cases of chronic pelvic peritonitis with extensive adhesions, seven of localized pelvic peritonitis,—in which the adhesions were limited to one locality,—four of hydrosalpinx, four of chronic pelvic cellulitis,—the exudate having matted the organs involved into one mass,—nine of retroversion of the uterus with fixation, ten of chronic metritis, one of chronic ovaritis, three of acute anteflexion with metritis. Of the four cases of hydrosalpinx, one discharged into the bladder, one into the rectum, and one into the vagina. In no case did a subperitoneal or an intra-mural fibroid disappear entirely, no matter how long the galvanism was used, but the growth was checked and the troublesome symptoms disappeared. Very large masses with accumulations of fluid about them improved most rapidly, and the fluid disappeared in all cases. The current in such cases was of a strength of two hundred milliampères, and was sent directly through the tumor, from side to side of the abdominal wall. In other cases, the negative electrode was placed in the vagina against the projecting mass, the positive electrode being upon the abdomen, and consisting of a large dispersion plate of copper covered with French punk and chamois.

Intra-mural growths are best treated by the abdominal-vaginal method. In two or three cases submucous fibroids disappeared, all bleeding being stopped, though that was not accomplished suddenly. It was not found that the positive electrode exerted a more beneficial effect than the negative, and the former was rarely used in the uterus or vagina. A current of fifty to one hundred milliampères was all that was necessary to remove inflammatory exudates in every case, so that the conclusion was reached that persistency and skill were all that were necessary, in all such cases, to ultimate success, if the general health were fairly good. The fluid of hydrosalpinx and the enlargement of an ovaritis will alike disappear by this means of treatment. In a few cases of acute anteflection with chronic metritis the platinum electrode has been passed just beyond the curve in the uterus, and has caused a slight sloughing with the use of a current of large *ampèrage;* the result has always been satisfactory. If the patient is debilitated, and the exudate around the broad ligaments recent, inflammatory symptoms may occur if any attempt is made to cause absorption by galvanism. The author stated that he had never seen any harm follow the passage of the strongest current through the abdominal viscera. Healthy tissue in which there is a normal quantity of fluid furnish a good conducting medium for electricity, while the new connective tissue which contains almost no blood vessels is a very poor conductor, and is thus susceptible to the effects of the current. The author had not used the puncturing needles of Apostoli in any case, and he had had no serious accident, though he frequently observed that the general health of the patient was not so good when under active treatment as previously, and also that it was sometimes two or three months after the galvanism was stopped before the full benefits of the treatment were appreciated. The number of applications should vary between twelve and twenty, and the intervals between them should be four days.

THE MEDICAL TREATMENT OF PERITONITIS.—Dr. John H. Musser has an article in the *University Medical Magazine* for February, 1889, in which he protests against the idea that the disease in question is properly amenable only to surgical treatment. "We cannot," he says, "but look askance at the extraordinary surgical activity that prevails,"

The summary of the cases, all in private practice, from which his conclusions were drawn, is as follows:—

Total cases	29
" deaths, includiug pleuro-pneumonia	3
No. of peurperal cases	7
" deaths	3
" non-puerperal cases	22
" deaths	0
No. of times laparotomy or other surgical means employed :—	
In puerperal cases	1
" non-puerperal cases	3
Total	4
No. of deaths from laparotomy, etc	0
" recoveries without operation—Non-puerperal	19
" " " " —Puerperal	3

In short, of twenty-two cases, three-fourths, certainly one-half of which were desperately ill, recovered from peritonitis, operative interference being necessary in three only.

Method of Treatment.—1. Local blood-letting until pain is very much relieved. Better too much than too little blood abstracted. Three to fifteen Swedish leeches, according to age. If in progress more than forty-eight hours, a large blister. Both of the above to be followed by hot applications, stimulating liniments, as turpentine stupes, if bleeding or blisters not used.

2. Liquid diet absolutely, stimulants administered freely to prevent collapse, to lessen its severity, and to prevent tympany. In severe cases whiskey and water alone, until the most urgent symptoms subside. Cracked ice, lime water, champagne iced, are used for thirst or vomiting, but their value is questionable ; indeed, sips of hot water or hot whiskey and water are generally preferable. Freshly made Koumiss has been of wonderful service, even after vomiting has set in.

3. Calomel in small doses, hourly, until the bowels are moved ; then combined with opium in small amounts, to prevent diarrhœa, until ptyalism is secured. If the evacuations produce relief, as is often the case, the ptyalism need not be induced. One-eighth to one-half of a grain of the calomel is used, and has the advantage of being retained usually, even if vomiting is obstinate, while it frequently allays this troublesome and weakening symptom. Inunction may be required for mercurialization.

4. If seen early, aconite to children and veratrum viride to adults, is given until the pulse-rate is lessened. With veratrum particularly a cool, moist skin, a lower pulse-rate and fall of temperature, which should be brought about in twenty-four to forty-eight hours, are followed by relief to the local symptoms. Three to six drops of the veratrum (fluid extract), hourly, usually suffices.

5. To relieve pain, morphia, hypodermically, in small doses, as infrequently as possible. It seems better to combine atropia with it for obvious reasons. Twice daily often suffices, with one-fourth, one-eighth, or one-twelfth of a grain. When an opiate is combined with calomel, the morphia can be withdrawn generally. If morphia disagrees, as one often finds it to do, codeia will often suffice, given by the methods suggested by Brunton.

6. If the bowels are not opened in forty-eight hours by the calomel, if the cause is not one of strangulated hernia or acute obstruction of the bowel by a twist or by adhesion by a band, an enema of warm sweet oil (Oj) and then of tepid water are used with extreme care. It is undoubtedly of service to have the bowels moved as soon as possible. That peristalsis does not do as much harm as is usually taught, we know, because diarrhœa attends some cases of peritonitis, as we have seen more particularly in pericæcal abscess. Moreover, accumulations of gas are prevented, a thing highly desired. Indeed it may be put down as a cardinal rule in therapeutics that in all affections of or about the tubes or channels, a patulous state of the canal must be obtained if possible.

7. There is no doubt, even when on the verge of collapse, that life can be saved by persistent and active stimulating medication. This must usually be by subcutaneous injection. Whiskey, digitalis, atropia, and amyl nitrite, all have been of service.

Salt in Milk for Children.—Dr. A. Jacobi (*Arch. of Ped.*) says that the addition of chloride of sodium prevents the solid coagulation of milk by either rennet or gastric juice. The cow's milk ought never to be given without table salt, and the latter ought to be added to women's milk when it behaves like cow's milk in regard to solid curdling and its consequent indigestibility. Habitual constipation of children is influenced beneficially, since not only is the food made more digestible, but the alimentary secretions, both serous and glandular, are made more effective by its presence.

ON LATENT AND CHRONIC GONORRHŒA IN THE FEMALE SEX. (Dr. E. Noeggerath, Wiesbaden, in *Schmidt's Jahrbücher d. in u. ausländ. Medicin. März*, 1888).—In the section for Dermatology and Syphilotology at the sixtieth meeting of the German naturalists, N. gave a survey of the present state of the above question, and the still disputed points. He first stated, that in large and middle-sized cities gonorrhœa is the most frequent disease occurring in the female sex. Its frequency is the more emphasized by gynecologists the more the knowledge of the disease has progressed, even without proof of the presence of the gonococci, being merely based upon clinical symptoms. The presence of gonococci in chronic urethritis in the male is proved with difficulty, but still harder is their proof in the female. The absence of gonococci in the secretion of the male does not exclude the danger of contagion. The evidence of the cure of gonorrhœa is only furnished by the normal condition of the genitalia of the wife after the first months of marriage. If the genitalia of the wife offer clinical symptoms of gonorrhœa, one will be able also in the husband, in spite of apparently cured gonorrhœa, to prove by a more thorough examination, especially of the urethra, the continuance of the disease. N. does not consider gonorrhœa in the male incurable, as it was formerly thought,—brings forward new proofs of its eminently chronic course and its infectiousness in many cases, and regards the closest examination of the male urethra as absolutely necessary if one would permit a man with persistent gonorrhœa to marry.

The diagnosis of gonorrhœa in the female with acute attacks (acute and recurrent perimetritis) is not difficult if one takes into consideration the etiological events and also finds a salpingitis. The severe disease in child-bed, recently considered by many as a sequela of acute and gonorrhœal salpingitis and peritonitis, which may be confounded with the picture of puerperal sepsis, is also so considered by N.

At the end he gives a review and a clear picture of chronic gonorrhœa in the female. Not the single symptoms, but a symptom-group most frequently found, and always repeating itself, decides surely the question whether the disease be of gonorrhœal nature or not.—*Annals of Gynecology*.

CLINICAL SOCIETY OF LONDON.

Friday, January 25th. 1889.

CHRISTOPHER HEATH, F.R.C.S., President, in the Chair.

Presidential Address.—Mr. Christopher Heath delivered the usual address, which is published elsewhere.—At the termination of the address, Mr. Bryant proposed a vote of thanks to the President, coupled with the request that he would publish his address in the next volume of the Society's *Transactions.*—Dr. Duffin seconded the resolution, which was carried with acclamation.

Nerve-Grafting.—Mr. Mayo Robson (Leeds) showed a girl, æt. 14, on whom he had successfully grafted two inches and a half of the posterior tibial nerve into a corresponding gap in the median nerve in the forearm. He also showed the tumor which had involved the median nerve, and had necessitated its removal. The history of the case, briefly, was that the patient had noticed the tumor growing for six years, but it had grown more rapidly during the past twelve months, during which time it had caused considerable inconvenience, as well as deformity. The tumor, about the size of a hen's egg, extended from the annular ligament, in front of the right wrist, up the forearm for about three inches, reaching laterally from side to side, the skin being firmly stretched over, but not adherent to, the tumor, which appeared to be solid or semi-solid. On making an incision over the swelling the tumor bulged through the wound, and was easily separated from its cellular bed, leaving the mass attached above and below to a cord, which appeared to be inseparably blended with it. The attachments had, therefore, to be cut through. A microscopic examination showed that the cord was composed of nerve tissue, and on the patient coming round from the anæsthetic, the parts in the hand supplied by the median were found to be devoid of sensation. Arrangements were made with Mr. Robson to graft the sciatic nerve of a rabbit into the gap of the median nerve, but fortunately his colleague, Mr. Ward, kindly allowed him to arrange his operation at the same time that he was amputating a thigh, and to use the posterior tibial nerve, which was taken straight from the amputated leg into the prepared forearm, the transfer from one theatre to the other being made in a warm carbolic solution. Two inches and a half of nerve were utilized, the ends being attached to the proximal and distal portions of the median with a fine catgut suture, without the slightest tension, either on the stitches or on the nerve; the wound was well washed out with perchloride of mercury lotion, and carefully sutured. Healing occurred by first intention. The grafting was performed forty-eight hours after the tumor had been removed; thirty-six hours after the nerve had been grafted sensation had so far returned in the parts supplied by the median that the touch of a pencil could be localised. Day by day sensation became more and more distinct, until when shown to the members of the Leeds and West Riding Medico-Chirurgical Society, five weeks after the operation, it was so perfect that the slightest touch could be localized, and although there was manifest diminution in volume of the abductor and flexor brevis pollicis, they were not completely paralysed. Mr. Mayo Robson, after relating experiments on animals, which went to prove that reunion and even regeneration of nerves might occur, remarked that in such cases, where there had been absolute loss of nerve, return of function did not occur. He thought that the case he had related presented very important physiological and clinical features; physiological, in that the living nerve must have immediately united and taken on function, so that thirty-six hours afterwards, the distal portions of the median were functionally active; clinical, in that, if nerve-grafting to such an extent could certainly be relied on, many hitherto hopeless cases might be cured; for instance, in injury of an extremity with destruction of one or more chief nerve-trunks, in the case of a tumor involving nerves, in paralysis due to cicatricial destruction of nerve, in many other cases. He ventured to hope that if, as in this case, two and a half inches of nerve would live, further experiments might show that greater lengths might survive; or, if this were found to be impossible, that the grafting might be done piece by piece as in the case of bone-grafting. The conditions which he advised to be observed in such operations were, first, entire absence of tension in the grafted nerve—for example, two and a half inches being employed to fill an interval of two and a quarter inches; secondly, great care in dissecting out and in handling the nerve; thirdly, immediate transference of the living tissue into its new bed; fourthly, the employment of only a single suture to fix the ends of the nerves: and fifthly, strict asepsis. He thought that this case, if he had correctly interpreted it, went to disprove the theory that a primary union of the divided ends of a nerve was only an appearance of union, and not a physiological one, and that the distal ends must pass through a process of degeneration before regeneration. He remarked that the return of function in the motor portion of the nerve was more gradual than in the sensory, and made suggestions which he thought might explain the difference.—Mr. Bryant asked whether the suture had included the whole thickness of the nerve. Mr. Bowlby observed that the case seemed likely to prove a successful one, but at present it was not entirely so. It was the first recorded case of nerve-grafting in this country, although a number of experiments and operations had been published on the Continent. This was the first case of primary grafting of a nerve; that is, within forty-eight hours of injury. He pointed out that in a certain number of instances there had been restoration of function without restoration of continuity of the nerve. He had quoted several instances of the kind in his lectures at the College of Surgeons. Still, on examining that particular patient, he found more sensation than he had ever seen before under similar circumstances. The condition of the muscles was not altogether healthy, but still satisfactory. He asked that, before the case was recorded in the *Transactions*, Mr. Robson should ascertain what was the reaction of the muscles to electricity. He mentioned as a curious fact that the power of voluntary motion often returned a long time before there was any reaction to electricity. He had remarked a bulla on the tip of the patient's index finger, which seemed to point to a trophic lesion. He questioned the accuracy of the view generally held that, after primary suture of the two ends of a divided nerve, the lower end necessarily underwent degeneration. It was not always so, at any rate. He mentioned a case in which he had brought the ends together, although fully an inch had been cut out, with complete restoration of function in a few days. In another case in which union by primary intention took place, and although there was no paralysis, yet for a long time there was no reaction to electricity. He also pointed out that sensation was a very vague term and might exist in very varying degrees. Mr. Robson's patient still experienced numbness and tingling in the fingers, showing that sensation, if good, was not perfect.—Mr. Bland Sutton urged that it did not follow that, because restoration of function had taken place after joining the cut ends of the nerve by means of a piece of the posterior tibial nerve, the latter had become incorporated with the median nerve. In experiments that had been carried out on animals it seems that anything which acted as a conductor, so to speak, along which the reparative material passed—bits of chicken-bone, catgut, etc.—had been found to answer the purpose. The bulla which had been noticed generally took some time to form, and he suggested that the patient was now getting the symptoms which would have followed had the grafting not been effected. He hoped that the future progress of the case would be carefully watched, and the additional information added to the report when published in the *Transactions.*—The President mentioned the case of a man from whom, in the course of an operation for the removal of a tumor, he had accidentally removed a large piece of the external popliteal nerve—too much, in fact, to admit of the ends being brought together. Loss of sensation and muscular degeneration followed in the parts supplied by the nerve, and the patient left the hospital in a rather unsatisfactory condition as regarded the leg. Some months later he looked the patient up, and found, to his surprise, that the function had been restored, and the patient said he was as strong in the leg as ever he had been.—Mr. Mayo Robson, in reply, admitted that the case was not yet an unqualified success; but the progress of the case had been so uninterruptedly satisfactory that he quite anticipated it would ultimately become so. He had passed a very fine catgut suture through the whole thickness of the nerve. He observed that even if this piece of the transplanted nerve had not become incorporated with the median nerve, yet, in view of the successful issue of the case, most persons would be inclined to commend the course that had been adopted.

OSTEOTOMY FOR ANTERIOR CURVATURES OF THE LEG.—Dr. De Forest Willard closes an interesting paper in the *Medical and Surgical Reporter* with the following conclusions: 1. Anterior tibial curves during the soft and springy stages, may be corrected by manual rectification and the use of apparatus. 2. Braces are useless after hardening has occured. 3. Manual fracture is the best and safest remedial operation in young children. 4. Instrumental fracture, or osteoclasis is not as safe or effective as osteotomy. 5. Aseptic simple osteotomy, for all moderate degrees of curves, and cuneiform section for very severe grades, give almost uniformly good and speedy results, without suppuration. Subcutaneous operation by the saw is also a reliable operation. 6. Plaster-of-paris is the simplest and most effective material for securing accurate position and maintaining absolute fixation.

CLINICAL RECORDS.

Case of Extra-Uterine Pregnancy, with Primary Rupture into Cavity of Left Broad Ligament at Eighth Week, and Probable Secondary Rupture into Peritoneal Cavity with Slow Hæmorrhage about the Twelfth Week.—Laparotomy.—Death on Fifth Day. (A. J. Russell, M.D., Oakland, Cal.)—Since the birth of her last child, five years ago, Mrs. Alice G., æt. 44 years, had menstruated—without pain—quite regularly until Sept. 1, 1888. At this date the flow only continued for two days, instead of five or six, her usual time. She had no pain, however, and thought but little about the matter one way or another. When the following period for the expected flow came around, *i. e.*, October 1, and she still saw, nor felt no indications of being unwell, it was decided by herself and friends that she was probably commencing her change of life. Along towards the latter part of October she began to feel ill, and complained of an aching fulness in left iliac region. On November 1, while sitting quietly in a chair at a neighbor's, she was taken violently sick, and had sharp pains in the lower part of her abdomen. She walked home, two blocks distant, and fell fainting upon a sofa, with cold hands and feet, pale face, and vomited. Her family physician was sent for, and she got hypodermic morphia, hot applications to extremities, etc. The next day she was easier, but the pain and soreness in left side kept her in bed for a fortnight; then she was up and about the house for a few days again, but was soon obliged to lie down and keep quiet. The trouble had been diagnosed inflammation of the bowels and bladder. Towards the last week of this month she was taken suddenly with serious aggravation of all the symptoms above related, and I was requested for the first time to visit her. The face was pale, eyes somewhat sunken, body emaciated, tongue coated, pulse 100, rather weak; temperature sub-normal, 97. She was lying on her back, with limbs flexed; her belly was flat, and covered with hot flannels; there was more or less tenderness all over the abdomen, but especially sore in the left iliac region. Digital examination found a hardish, but somewhat resilient, mass on the left side of the uterus, pushing the latter slightly towards the right, and so intimately connected that no sulcus whatever was distinguishable between the two. The womb was empty, and measured three and three-fourths inches. She had not taken solid food for ten days; there had been some diarrhœa, and the stomach now was rejectiug lime-water and milk. Summing up the history of amenorrhœa for past three months, the irregular flow when last seen, the sudden onset of violent pain, followed by symptoms of shock, the subsequent soreness, and the absence of the usual signs of suppurative cellulitis, it was thought warrantable to make a diagnosis of extra-uterine gestation. The nature of the trouble was explained to the family, and also full instructions relative to the operation for opening the abdomen was given. Consultation was requested at once, and that evening a large red decidua was passed into the bed-pan. The next morning at ten o'clock the patient was carried into a front, sunny room, and the abdomen opened. A blackish mass bulged up to the left of the uterus, and was adherent to to the intestines; the omentum was black and spotted; old blood-clots were scattered here and there through the abdominal cavity, knuckles of the small bowels were firmly adherent in patches. The hand was passed down around the mass for the purpose of outlining the growth and detaching adhesions; with some difficulty a strong ligature was carried beneath the broad ligament and up along the side of uterus; it was quite puzzling, however, to tell where the uterine tissue ended or the sac formation began, so closely were they blended one with the other. The adhesions and clots were now looked after, and when all oozing had ceased the ligature was quickly and powerfully drawn down so as to form a sort of pedicle; this was transfixed and each side again securely tied. Upon cutting through the sac, the plum-colored, purplish placenta protruded, and a good deal of venous blood escaped; then a small fœtus (dead) was seen wedged down towards the centre of sac cavity. This, together with its placenta, the left ovary, and broad ligament, were then removed. The peritoneal cavity was washed out with slightly carbolized water that had been previously boiled, and a drainage-tube being inserted in lower end of womb, the abdomen was closed. She was almost pulseless, and there well-marked signs of shock—vomiting set in towards evening and continued for two days. She then got a little lime water and milk, and passed rather a good night; for the next two days she gave us little trouble. The drainage was satisfactory, discharge being free, and of a pinkish serum; bladder acted well, but on the evening of the fourth day her temperature rose to 101. She began to vomit again, and continued to grow worse up to the evening of the fifth day, when she died, with well-marked symptoms of pyæmia.

GOUTY BRONCHITIS.—The connection between gout and bronchitis is well known, and the following case which has occurred to me furnishes one more illustration of the relation sometimes existing between the two. My patient is a man æt. about 40 years, stout, a heavy meat eater, and inclined to frequent potations of malt liquors. I had on several occasions attended him for the following symptoms: tenderness in the epigastric region, nausea, marked flatulence with eructations, severe dyspnœa, and the physical signs of an acute bronchitis.

On the last occasion when I was called to see him I found him suffering from the same set of symptoms. His urine was loaded with urates, and there was great prostration. On the fourth day of his attack, a typical acute gouty inflammation of the great toe appeared, and simultaneously his other symptoms subsided. His gout was well in a few days, and there was no relapse of the other symptoms.

The patient informed me that about three years ago he had a similar attack of bronchitis, during the course of which gout supervened, his bronchitic symptoms disappearing at the same time. He had since been free from any visible gouty manifestations until the present attack.—W. F. GRANT, M.D., Mile End Road.—*Brit. Med. Journal.*

DR. NICOLAI, of Stuttgart, Germany, writes in the *Deutsche Monateshrift für Zahnheilkunde* as follows:

A lady, æt. 32 years, who has not had her teeth examined for four years, presented herself to me to have her teeth placed in good condition. This necessitated cleaning the teeth, the removal of salivary calculus, and the introduction of eleven gold, six amalgam and two cement fillings.

On the completion of these operations the mouth was in a normal healthy condition, with the exception of the lower left first molar, of which nothing but the roots were left; these were broken, and underneath the margin of the gum. They were filled with the ichorous products of decomposition, and their margins were overhung with the inflamed, tumefied gum. This condition of affairs has prevented the lady from masticating her food on this side for some time, and as a natural result the right side alone was used. After having performed all the necessary operations in her mouth, I endeavored, by naming all the disadvantages arising from the presence of the roots, to convince her of the necessity of removing them. I told her that the left side of her mouth was completely useless, that these roots have caused diseases of the two adjoining teeth of the same jaw, and of the articulating tooth of the upper jaw; that a tendency to the recurrence of caries still existed, that inflammation of the gums would always exist, and that the breath will be always tainted. All these efforts were futile and were met with the single statement that, while the roots were not painful, she would not submit to their removal. To diminish the jeopardy of my work to the minimum, I concluded to place the roots in as good a condition as I could and, if possible, make them serviceable for mastication on that side of her mouth. Removing the tumefied, spongy gums, and all products of decomposition, and, by means of the bur, the ichorous contents of the roots, I adopted the most radical means of disinfection known to science, capped the roots with red gutta percha, and dismissed the patient, satisfied in my belief of having aided her to the best of my ability.

The following day the patient's husband came to my office, hastily requesting a few moment's interview. "What have you put in the lower tooth of my wife? Was it iodoform, carbolic acid, creosote, or some such substance having a marked odor?" On being answered in the affirmative, he merely thanked me, stating that the family physician would call on me. In astonishment I awaited the latter's call, who stated to me that the lady has had a slight discharge of pus for the last eight months, at a location about 1 cm. above the left nipple of the breast. There was no apparent disease of the breast. At first cold poultices were applied; these were succeeded by warm ones; later, a probe was introduced following the channel upward, and this was followed by the injection of astringent remedies, and finally by cauterization of the wound. The discharge, however, continues. To-day, the patient claims that she discovers the odor of the medicines used in her tooth yesterday, in the discharge from the breast. He wished to know whether it was possible that the lady is in error, or whether it is possible that there is some connection between the breast wound and the roots.

I have had a case of pus inundation where the discharge took place in the neighborhood of the shoulder. Many cases have been reported in our literature, among others by Carabelli, but no case of infiltration to the mammary gland. The connection, if any exists, can be ascertained with certainty. If it is true that the medicaments used have passed from the roots into the wound on the breast, a harmless coloring would also do so. A cochineal solution was injected into the root-canals, and the following day the discharge from the breast was colored, thus positively establishing the connection. I concluded to extract the roots, and thus, by removing the primary cause, cure the ailment. The examination made after the extraction of the roots proved that the pus had passed through the basilar portion of the lower maxilla, followed the border of the sterno-cleido-mastoid muscle, perforating the strong fascia of the platysma myoides, it followed the pectoral muscle and infiltrated the tissues of the mammary gland, discharging into the external world according to the laws of gravitation. Phenol water and boracic acid were afterward used. In about twelve days the wound on the breast was healed.—*The Dental Review*, February, 1889.

FUNGOID GROWTH ON THE LEFT BREAST.* By Thomas Opie, M.D., of Baltimore, Md.

Mrs. F., forty-five years of age, married at twenty, and has had eleven full term children and two abortions, her last pregnancy having ended four years ago. Her general health is poor and mental condition very much depressed. The growth began as a small nodule sixteen years ago, below the left nipple. She nursed her last child two years. A short time after weaning it, the tumor commenced to grow. On April 16th, 1888, Dr. A. L. Wolf, of Page County, Va., removed it when the size of a goose egg. Dr. Wolf writes that "after making the incision the tumor was readily enucleated by his knife handle and finger. The wound healed by the first intention and left only a slight scar. Four months afterwards, a second tumor came, about two inches from the seat of the first one, and in six week attained to a growth which weighed four pounds. The mass removed embraced the whole gland. The incision again healed by first intention, but the scar did not become so pale and small as did the other. About six weeks after the second operation there arose a sleek, purplish red projection, which was followed by others, which soon burst through the skin, with the present result: medullary sarcoma or fungus hæmatodes."

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* Read before the Gynæcological and Obstetrical Society January, 8th, 1889.

Mrs. F., was admitted into the hospital December 11th. The tumor, the odor of which was unbearable, was dressed twice a day with surgeon's wool, after washing with a solution of permanganate of potash ʒj to Oj.

The fungoid growth was removed December 18th. An attempt was made to effect it with the thermo-cautery, but it was quickly decided, in view of the hæmorrhage, to circumscribe and rapidly excise it, with the scalpel. An incision through the sound skin, an inch outside the diseased tissues, was made. The whole of the pectoralis major muscle under the mass was removed. The arteries were caught up as soon as severed, with catch forceps. The wound left, measured nine inches from above downwards and seven from side to side. During the latter part of the operation, the patient sank from loss of blood or shock and was given hypoderms of whiskey. She rallied satisfactorily, the wound was dressed and she was put to bed.

On the second day after the operation the patient became very delirious and continued in an insane condition until death ensued.

Billroth in his recent work on Diseases of the Mammary Gland, page 63, Wood's Library, 1888, says the four cases reported (by him) show how little infectious, soft sarcoma of the mamma depends on age. The cases were in the 14th, 31st, 42d and 65th years. He says the differentiation of soft sarcoma from soft carcinoma and the different forms of soft sarcoma from one another, is principally and in part exclusively based on exact microscopic examination and is the result of the progress made in the last ten years. He calls attention to errors of Velpeau, Erichsen, Gross and others in classifying such cases as these in the category of "encephaloids."

The following report was made by Dr. Keirle after examination of a specimen of the growth under the microscope:

"The tumor is a recurrence after removal; in gross it looks like white brain matter (medullary encephaloid), with numerous fine red streaks; in consistence it is so soft as to easily break up on handling. Microscopically, it is made up of medium sized spindle cells, with homogeneous, gelatinous intercellular substance. Much of this structure is undergoing fatty degeneration; the mammary tubes are full of proliferating large roundish cells, so that a lumen cannot be discovered. On cross section these tubes somewhat resemble epithelial nests (perlkrebs, globes epidermiques): scattered throughout the section are numerous large, round cells with large nuclei; also numerous vessels with spindle cell walls.

"The growth is a sarcoma with epithelial proliferation, in reference to which the following is quoted from Billroth's Surg. Syd. Soc. Ed., vol. ii, p. 426: 'There is reason to fear general infection, and besides this, a transformation into cancer in consequence of epithelial proliferation becomes possible.'—N. G. Keirle, M.D., *Demst. of Path.*"

REFLEX, OR THE SO-CALLED, USELESS COUGH. By Stanley M. Ward, M.D., Scranton, Pa.

The subject of reflex cough, that is to say, of cough in which, in the words of A. A. Smith, the primary seat of irritation is outside of the respiratory tract, is one that seems to have attracted little attention from writers on medical subjects. In a paper recently read before the New York County Medical Society, Dr. Wm. H. Thomsen (see *Reporter*, December 15, 1888, p. 750) stated that there are fourteen varieties of useless cough, and among the causes of it he enumerated worms in the intestinal tract, undigested food anywhere along the same canal, the cause of whooping-cough, foreign bodies in the auditory canal, a misplaced uterus, aneurisms in certain localities, and malaria.

During the spring of 1886 there came under my personal observation a typical case of reflex cough. I was satisfied that the cause of the cough was outside the respiratory tract, but to find out just where it was proved extremely difficult. At that time I consulted what literature I had access to, and especially the files of all the prominent medical magazines published in this country, but with little success except in one instance. A reprint of an article by Dr. A. A. Smith on reflex cough, which appeared in the *American Journal of the Medical Sciences*, came under my notice and was of valuable assistance, especially as it convinced my patient that after all she might not be a victim of "hasty consumption" or pneumonia, as her friends had declared. Dr. Smith in this article narrates the history of eleven patients who came under his own observation, and quotes one from *L'Union Medicale.* As a matter of interest I give an epitome of his cases,

Case I.—Male child, æt. four weeks. "Began to cough violently, one night, suddenly, and to cry each time he coughed." Had been perfectly healthy. He failed to account for the cough and ordered a teaspoonful of castor oil. Seemed worse next day. A "most careful examination of heart, lungs and throat" failed to reveal a cause for the cough, which continued, unaccompanied by fever until the fourth day, when the doctor had the child stripped to the skin and noticed that every time the child coughed there was an "umbilical protrusion." A compress put over this stopped the cough, but when removed the cough returned. Thus having the key to the trouble, the treatment was simple, and a compress was fitted over the protrusion, which stopped the cough entirely and completely relieved the child.

Case II.—Female child, æt. two and one-half years. Always healthy and well until two days before being seen. Symptoms: loss of appetite, some nausea and vomiting, restless at nights, cough and abdominal pain. Examination of heart and lungs negative, but on the posterior wall of the pharynx was "a collection of mucus, and the tonsils were enlarged." Treatment of this condition availed nothing. Two days after the patient was seen with constant cough, temperature 103°, pulse 120, "restless and uneasy." Again a careful examination failed to reveal anything of importance. For three days more the child remained in about the same condition, "despite all my treatment," when on having a movement of the bowels a large peach stone passed in the stool, with a cessation of all bad symptoms.

Case III.—Female child, æt. four years. Two days before being seen the patient had developed some bad symptoms, prominent among which was cough. She was "anæmic, digestion poor, tongue coated, restless at night." There was no febrile movement. "Thinking I discovered evidences of periodicity in the attacks of coughing I ordered quinia and an anodyne cough mixture." At the end of two weeks there had been no material change. Another examination suggested the possibility of worms in the intestinal canal, and santonin and calomel were given. These had the effect of dislodging an "enormous quantity" of worms, and with their escape the bad symptoms vanished and did not return.

Case IV.—Female child, æt. six years. Never had been considered a healthy and robust child. "As a baby the patient was subject to attacks of indigestion." During the preceding summer she had been seen by Dr. Smith. The patient then had some peculiar attacks characterized by "pain in the abdomen, distension and diarrhœa, and violent cough and sometimes vomiting." In November she was first seen. For three months before there had been almost constant cough, loss of flesh and appetite, night sweats, pains in the chest, etc. The cough was unaccompanied by expectoration. An examination failed to reveal anything of note. "Treatment availed but little." Two weeks after she came under his care she passed spontaneously several sections of tape-worm. Appropriate treatment was instituted, and the expulsion of the worm was followed by complete cessation of all her disturbances.

Case V.—A woman, æt. 25 years. The patient was first seen in September, 1875. She had had a cough for a month while in the country. Consulted the doctor immediately on her return. She had been troubled with malarial symptoms the year before, and finding on examination no disease of heart, lungs or throat, he thought this cough might be malarial in its origin. In a month there was no improvement and there were added to the cough these other symptoms: loss of appetite, of flesh and strength, disturbance of digestion, anæmia, headache, and on the left side especially there was thoracic pain. By November 1, all the symptoms were progressing except the cough, which remained "about the same." There was no expectoration. "She had lost since the middle of August about sixteen pounds." Another careful examination of every organ of the body failed to discover the cause of these bad and advancing symptoms. The next day she passed some segments of a tape-worm, and treatment therefore with tonics, etc., was followed by such marked improvement that in two months more she had regained all that she had lost. Dr. Smith remarks in connection with this case that he could not feel convinced that the parasite was the cause of the trouble until he saw the rapid and marked improvement following its removal.

Case VI.—The patient was a woman in whom a cough seemed to take the place of that peculiar condition known as the "vomiting of pregnancy." Instead of having this latter she developed a cough which lasted through two and a-half-months of her pregnancy and then ceased. This has been noted in two pregnancies, which were all she had had at the date of the observation.

Case VII.—Female child, æt. three and a-half years old. The patient was attacked in the early morning with what was supposed to be "croup" by the mother, who knowing the effect that an emetic sometimes produces in this disease, administered a teaspoonful of the syrup of ipecac. Prompt emesis followed, but the "croupy cough" was seen to depend on the presence of undigested material in the stomach of the child—at least the emetic dislodged a mass of food and among the rest a quantity of meat eaten thirteen hours before, but not a particle digested and the cough ceased.

Case VIII.—A man, æt. forty-five years, of rather a nervous temperament; a good liver. He had been subject to asthmatic attacks for twenty years. He had a small growth on his back "situated about two inches to the right of the spinous process of the second dorsal vertebra." It was about the size of a split pea, and was not painful to the touch. It was not a neuroma. Scratching this would cause him to cough and to suffer ftom dyspnœa. This condition could be brought about at any time by stroking or rubbing the growth. The physicel signs present on auscultation and percussion of the chest did not change during the time the cough was being forced upon him.

Case IX.—A young woman, æt. nineteen years, suffering with "a retroverted uterus and spinal anæmia with all its accompaniments." Electricity was one of the agents used for her relief, and it was noticeable that when one pole was placed on the cervical spine and the other was passed on either side of the spinous processes of the last dorsal and first two lumbar vertebræ she would cough, faintly at first, "but violently if the application were continued." This phenomenon occurred, regardless of the kind of current used, but did not happen if either were applied elsewhere than at the points mentioned.

Case X.—A woman, æt. thirty-six years, mother of one child. The patient had had a cough for over a year, the cause of which an examination of the chest and throat failed to discover. For three months she was under treatment, and though her general condition improved, the cough persisted. At the end of this time she made an unusual muscular effort and completely or nearly retroverted her uterus. Her cough at this time is described as being "almost continuously paroxysmal." She also said that at the time of the menstrual flow the cough was aggravated. "An Albert Smith pessary was introduced, in a few days, with the effect of . . . entirely curing the cough."

Case XI.—Female child, æt. seventeen months. After two days of restlessness, loss of appetite, etc., the patient began to cough. There was some febrile movement. She was seen on the morning of the third day by Dr. Smith, who, on examining the throat and thoracic viscera, failed to account for the cough. An examination of the gums showed them to be much swollen and "very tender over the upper canines." They were freely lanced and the relief "seemed to be immediate." In a few weeks Dr. Smith was again called to see the child, which presented the same symptoms; this time an examination revealed a similar condition of the *lower* canines, and again an incision relieved the child of the cough.

An analysis of these cases shows that in over fifty per cent. the cause of the reflex cough was at some part of the alimentary tract. The large number of children affected, some with a rise of temperature, and the difficulty which all recognize of examining these little patients satisfactorily, might easily lead some less careful diagnosticians to find cases of pneumonia where a cherry-pit or a tape-worm was in fact the cause of the trouble.

My own case is as follows: The patient, Mrs. L., mother of two children, the youngest still at the breast, was accustomed, in order to increase the flow of milk, to drink two bottles of porter daily, and from a pint to a quart of milk. She had done this when her first child was a nursling and had experienced nothing except benefit. One night during the latter part of April, 1886, she began to cough violently and in paroxysms. The cough was dry and harsh but not "croupy." In spite of chloral, the bromides, etc., she kept coughing at irregular intervals for nearly twelve hours, when there was a complete cessation for an hour or more. Her temperature was normal. Physical examination of the chest and throat disclosed nothing. She was cheerful and bright and joked considerably about her condition. During the afternoon the cough began again, and with the exception of the times during which she was stupid from the effect of narcotics, it raged with redoubled fury for the next six or eight hours. During the morning of the second day there was a little rest, but it was only momentary. The paroxysms came on and lasted from four to six hours in spite of anodynes freely administered, spraying the throat, blistering the chest, and doing everything that reason or fancy could suggest. Finally, having on the fourth or fifth day exhausted my materia medica, I decided to attack the complaint in another way, and administered a scruple of sulphate of zinc in lukewarm water, and followed it with a half ounce of the syrup of ipecac. I had a rather vague idea that the revulsion which would follow the emesis might have some effect on the cough, After rather longer than usual emesis began, and the stomach ejected mass after mass of coagulated casein. Some of the pieces were several inches in extent and had to be pulled forcibly from the mouth and pharynx to prevent choking. The cough immediately lessened. The patient slept some without hypnotics. The milk and porter were prohibited, and a full dose of pepsin administered, and afterward a brisk cathartic. The patient coughed no more after this except at long intervals, when she would "bark" a little; but practically the cure was complete.

I have no doubt that the cough was produced by the irritation which the undigested casein produced on the gastric filaments of the pneugastric. I do not think the "reflex" cough can be invariably distinguished by its characteristics. Dr. Smith, in the article I have referred to, does not think so. Dr. Thomsen says that it is always non-expectorant, and that the sound is always single. It is a question with me whether or not after a variable time the reflex cough may not be so irritant as to set up a pharyngitis and bronchitis with their accompaniments.

PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

Meeting of March 5, 1889.

DISCUSSION ON DIPHTHERIA CONTINUED.

After the reading of Dr. Lloyd's and Dr. William's papers the Chair declared the subject open for general discussion.

The President:—In order to start the discussion I would like to draw the attention of the members to an article in the "Journal of the American Medical Association," for February 23d. 1889, from the pen of Dr. John S. Coleman of Augusta, Ga., and his paper is a startling one. I have corresponded with him upon the subject before this paper and have heard his views in regard to the use of corrosive sublimate in the treatment of diphtheria. I do not think he is an enthusiast, but rather a well balanced medical man, and an old practitioner; but he is certainly very warm in the praises of corrosive sublimate in the treatment of diphtheria. He has had but few cases, but some very severe ones; which have, as he supposes, been saved by corrosive sublimate. He gives it internally, but each dose is a topical application to the pharynx, He relates one case in his paper where a child three years old took 10½ grains in nine days, in 84 doses. A second case in a child six years old did not need so much, but a third case in a child 16 months old, one eighth of a grain was given hourly for 72 hours,—nine grains in three days,—all the cases making good recoveries.

These, and other cases that he has had, show a most remarkable tolerance to an active corrosive poison and the number of cases exclude an explanation by idiosyncrasy. He supposes that there is a special antagonism of energy between the disease and the mercurial, each counteracting the other. But is it not more probable that, the disease being one of the albumenoid exudation, and milk being freely and frequently given,—the bichloride was converted into the less soluble and much less active albuminate of mercury, and thus the corrosive violence of the poison prevented. I would advise all who are interested in this subject, to read the paper because the author is an able, intelligent man, very precise in his statements and one who knows what he is talking about.

Dr. Ostrander: I have used the corrosive sublimate but always in conjunction with the chloride of iron and alcohol, so I can not speak of its use singly and alone. I have used it as a spray, but could not say anything about its toxic effect as I have never used it alone.

In regard to fatality, it would be difficult for me to give that, without referring to the records of my cases. In bad cases it may possibly have been, as much as one in four, especially where the disease attacked the larynx and passed down the bronchial tubes. I think almost every case of that kind has been fatal.

Dr. W. H. Thayer: I have nothing to add except a word in relation to corrosive sublimate. For the last two or three years I have relied on corrosive sublimate almost entirely, and have never seen any ill effects from it, certainly no salivation. There seems to be great tolerance of it, but I have never given it in such doses as the gentleman quoted by the President. I have given it in doses 1-40 to 1-20 of a grain every two hours, according to the age, and do not think I have exceeded that. I never saw any bad results from it, and I have been led to substitute it for the tincture of chloride of iron (which I always employed before), as finding it more prompt in its action. Sometimes I have combined, particularly in an advanced period of the case, the tincture of chloride of iron with the corrosive sublimate, where an additional tonic seemed to be necessary,—and the corrosive sublimate evidently acts as a tonic. I think convalescence is more rapid under its use than under the ordinary methods of treatment.

In consequence, however, of the remarkable results of the treatment by alcohol, which have been presented to this Association, I intend to make trial of it, in place of both iron and corrosive sublimate.

In regard to fatality, it seems to me that the mortality as reported is much exaggerated. I think the general experience will not give us as great a mortality as some of the gentlemen have described. In regard to my own cases, during the twenty-two years that I have lived in Brooklyn, I do not think I have seen more than eight fatal cases of diphtheria, and I felt confident, in two or three of those, that there was a chance of recovery which was lost by the patient not coming under treatment until in an advanced stage. One's memory is deceptive, but the fatal cases of diphtheria stand out so prominently in my mind that I do not think I am mistaken. Certainly in the last two or three years I have seen many cases of mild diphtheria, which have recovered, which were mild at the beginning, and many cases which might have been serious if not actively treated in the beginning. In the last three years I have seen not more than three fatal cases, and one of those I was called to on the fifth day, when the patient was entirely past hope; another also was seen at an advanced stage. My feeling about diphtheria is, taking it as we see it—mild and severe, that the fatality is inconsiderable; that it is much less than one in four cases. Of course we know that there is a great difference in different epidemics, in different regions, and different families. I have had no experience with peroxide of hydrogen. I call nothing diphtheria but what is diphtheria. This winter I have seen a great number of cases of inflammation of the pharynx and tonsils, and cases of follicular amygdalitis and rheumatic inflammation of the throat, but not one case of diphtheria during the last three months.

I suppose we cannot judge of the prevalence of diphtheria from the cases reported at the Health Department; all the fatal cases are reported, but a comparatively small proportion of the cases that recover.

Dr. Paine: In regard to the treatment. I feel that we have a very dangerous and insidious enemy to fight, and I never feel justified in relying upon one line of battle. I adopt local remedies, constitutional and supporting treatment also. I have learned to have a great respect, however, for the tincture of chloride of iron applied locally and frequently; not once or twice, nor three nor four times a day, but every two or three hours through the day, and often through the night. I have also had success with chloral hydrate and glycerin used in the same manner.

My practice now is to use the iron and glycerin more locally, with less constitutional treatment; but in cases of severe blood poisoning of course the most active supporting treatment is necessary.

Where I have relied upon the alcoholic treatment alone, I have been disappointed.

The corrosive sublimate I have not used much, for the reason that I prefer the treatment which supports and strengthens while having a beneficial local effect.

In regard to the percentage of deaths, I am not prepared to admit that one in four of the true cases of diphtheria have proved fatal for the past few years at least, of course excluding all follicular tonsilitis and mild cases of pharyngitis; recently we have had a much milder type of the disease than we had some years ago. That the health reports show so large a mortality is explained by the fact that many men have reported cases when they expected to sign a death certificate, and not till then.

Dr. Burge: I am very happy to be here to listen to the instructive remarks that are being made, but I did not come prepared to make any special remarks, and whatever I may say will be exceedingly desultory.

In regard to the percentage of deaths from diphtheria I venture to say, it will never be known. There are so many borderline cases, so many cases that are never reported at all unless they die, so many cases that are local and show no constitutional symptoms, and so many that are constitutional and show no local symptoms, that I despair of ever knowing what the mortality of diphtheria is.

With regard to the treatment; the only case that I ever treated thoroughly and entirely upon the alcohol plan, died. That was a case that the lamented Dr. Chapman saw in consultation with me, and I was rather inclined to explain Dr. Chapman's universal success with diphtheria by presuming that he did not see diphtheria as those do who find it very fatal; that his practice had ceased to be among the tenement house people, and was rather among that class of the community in which diphtheria is not very fatal. That we have fatal cases, and a number of severe cases among the first people of the city, I know; but I also believe that among that class they are more likely to have it in a mild form and get over it.

In regard to treatment in general, I have seen more striking effects from the use of corrosive sublimate than from any other one agent, and I never omit it in cases that I believe to be true diphtheria. I generally give it 1-30 gr. every two hours, or with young children 1-60 gr. and sometimes 1-90 gr. persistently used. In some cases I have seen a laxative effect before the first day was out, and I have sometimes had to reduce the dose even from these small proportions within twenty-four or forty-eight hours.

I am obliged to differ from my friend, Dr. Paine, in my personal view as to the local use of iron. I have no objection to its constitutional use, but I do not often resort to it. The alcoholic treatment I use more according to the prostration than from any strictly antagonistic effect upon the poison of the disease, although I think there is more or less truth in what has been said about the tolerance of the patient to it.

In regard to local treatment; I use no local treatment in diphtheria except by the spray, unless it is among those who are old enough to gargle, and in small doses to swallow, that the agent may come in contact with the diphtheritic patch; and among them all I have used no one agent that I have found so efficient as simple chloroform water —a saturated solution of chloroform in water to which I generally add one drop of carbolic acid to the ounce. That may be given to young children with freedom.

The reports of cases of diphtheria that go to the Health Board are so variable from different parts of the city, and from different individuals, that they do not seem to me to be of any value whatever. One physician will report a large number of cases, while his neighbor doing apparently about the same amount of work will report none or almost none; one including almost all the severe cases of tonsilitis, and another, even leaving out some of those that he might well call diphtheria, but which, being on the border line, he will treat antiseptically and take all precautions, and have none of the general fright and uneasiness that come from the report of a case of diphtheria.

Dr. Wieber: I have used the peroxide of hydrogen in almost all cases lately, say for a year and a-half back, with a good deal of success. I had good results except in those cases where I could not depend on the parents and had to apply it myself. I think in every case it depends more on the family and the parents than on the doctor what to do. We can only get good results in such cases where we can depend on the carrying out of the orders of the physician. For instance, I had two cases in one family, and I insisted on giving brandy, and they said the children would not take it; and so if you have not the assistance of the parents you will not succeed very well, because in a child about six years old it is difficult to apply, and it needs two or three persons to carry it out. I think it would be much better if such cases could be treated in a hospital or in some place where one could depend on and know just what attendance they had. I depend on iron, brandy and peroxide of hydrogen. I have in some cases used the sublimate in solution, locally. In these cases after I cleaned the tonsils with the peroxide of hydrogen, I used a strong solution of the sublimate and I found it acted well. In my experience there is nothing better to clean the tonsils than peroxide of hydrogen. I use it in the young as a spray and in older patients as a gargle, and I have used it diluted with water, as an injection in the nose; and I do not think there is anything better for the local treatment. I think we can allow the parents or nurses to give it without any danger of their giving too much, but it all depends on the parents and nurses how it is used.

Dr. Bierwirth: Since the peroxide of hydrogen was mentioned here I have used it in three cases—a child of five years and two adults. In the case of the child I was called in attendance on Sunday night, the child having been seized with convulsions. It had had a very severe rigor, which was followed by convulsions. When I got there the child's temperature was 103 and she was quietly sleeping. I examined the throat and found no evidence of any inflammation. The next morning I found both tonsils covered with membrane. On Wednesday afternoon I happened to meet Dr. Squibb and he mentioned the peroxide of hydrogen to me and suggested that I try it, which I did, and began with it on Thursday morning. By this time the membrane had spread all over the tonsils, the posterior pillars of the fauces and had crept up on the soft palate and covered the uvala. The child gargled with a 3 vol. solution once every hour, night and day, on Thursday and Friday. On Saturday morning when I saw the child the entire membrane had disappeared. After its use for twenty-four hours the membrane had entirely disappeared from the pillars of the fauces and the posterior part of the pharynx and was simply confined to the tonsils; and in the next twenty-four hours the rest disappeared and the parts resumed a perfectly normal appearance.

With the disappearance of the local symptoms, the constitutional symptoms also disappeared as promptly and as effectually.

The second case was that of an adult female where the diptheritic membrane covered both posterior surfaces of the tonsils, the posterior pillars of the fauces, passed up to the soft palate, the uvula, and invaded the posterior nares. The nose was entirely clogged up, so that the patient could not breathe at all through it. The constitutional symptoms were very severe, one rigor following upon another with a temperature of 104½; that was on a Monday and there was then no membrane visible. On Tuesday there was some membrane visible on one tonsil, and she began to gargle with the peroxide, but the fluid did not reach the membrane very well, it being on the posterior surface of the tonsils, and they were much swollen. On Thursday morning the membrane had passed into the nose and I began to syringe out the nose with a glass syringe, once every two hours, continuing it night and day for twenty-four hours, after which time the nose was entirely cleared of the membrane, which came away in large pieces. A syringe-full of the 3 vol. solution thrown into the nose was extremely disagreeable to the patient, and caused considerable pain when first used. The second syringe-full I allowed to slowly trickle into the nose, and this was accompanied with less disagreeable result. The patient made a good recovery with the exception of some albumen in the urine.

The third case was that of a man who came to my office for treatment, with a well-developed membrane, covering the tonsils and part of the pharynx. His temperature was 101, and he complained of having had a very severe headache the day before and severe pains in his back. I sent him home with instructions to use the peroxide. I saw him the next morning, when the membrane was still present but considerably diminished. In twenty-four hours afterwards the entire membrane had disappeared.

In all three cases alcohol was used freely, and as much milk as the patient would take.

I have also received a report of two cases which were treated by a friend in Connecticut, with the peroxide of hydrogen; one, a child of five years old, where the disease was very severe. The child had been sick four days when he saw her, and he found the fauces, pharynx, soft palate and even the side of the cheek covered with membrane. The treatment was alcohol, freely, and milk; a 3 vol. solution of the peroxide was used locally, and after twenty-four hours, part of the membrane had disappeared, and in forty-eight hours more every vestige had gone. His testimony, and that of his associate who has used it, are very much in favor of it. They both agree that they have never used an agent which so thoroughly and so quickly dissolves the membrane and cleans the pharynx. It is almost tasteless, and not at all disagreeable; the child of five, the first of my cases, did not object to its use. I have used it in two or three cases for children, and the taste has never been objected to. In the one case where it was used as injection in the nose, the patient suffered from an attack of facial neuralgia, which she ascribed to the use of the peroxide, but she was of a neurotic temperament. It seems to me that the peroxide, as the Connecticut gentlemen expressed themselves, is a remedy which acts better and is less disagreeable than any other agent, locally applied, that I ever heard of. The patients take to it kindly, and in none of my cases has it failed to act promptly and efficiently.

In regard to the chlorate of potash, since seeing two deaths from chlorate of potash poisoning I have never used it and so far, I do not see that there is any necessity for it. If the peroxide of hydrogen appears to be as good an agent in further trials as it has so far, it seems to me it fills all the wants we have.

I have never used the bichloride of mercury. I suppose I should use it if I had a case of larnygeal diphtheria which I could not reach from without, but in cases of pharyngeal diphtheria I should be content to use the peroxide, applied early, and the alcohol, and a liberal diet.

Out of sixteen cases last year, only two died. One of sudden heart failure, after convalescence was well established, due to falling down stairs when left unguarded for a short time by the parents, and the other a case of chlorate of potash poisoning. This year I have had nine cases and no deaths. These nine cases were severe ones, with the exception of the last case, which was taken sick on Saturday and was apparently well on Tuesday.

The peroxide of hydrogen was used in the last three cases. In the six preceding cases the treatment was tincture of chloride of iron in sufficiently large doses—adults, twenty drops every two hours—for adults, a tablespoonful of alcohol every two hours, and about eight ounces of milk every two hours. Before I used the peroxide for local application, I was in the habit of using, for the same purpose, a solution of equal parts of glycerin and lime water, with some carbolic acid added. But the constitutional treatment has always been tincture of chloride of iron, alcohol, and the free use of milk, which the patients seem to digest very well.

I would like to ask the gentlemen present who have used the tincture of chloride of iron in large doses internally, if they have noticed an increase of kidney trouble following? I have observed in my practice, where I had, as a matter of routine, examined the urine before, that after the tincture of chloride of iron had been exhibited in large quantities, a certain amount of albumen was found, and where it had not been used it was not found, although it may possibly be only a coincidence. In diphtheria the kidneys are easily affected, this may be only in the form of congestion or may assume the graver type of a parenchymatous inflammation, but it struck me that, perhaps, large doses of the chloride of iron might act irritatingly on the kidneys and thus predispose to inflammation.

Dr. Steinke asked Dr. Bierwirth to state whether there had been constitutional symptoms in his cases, before the membrane had developed.

Dr. Bierwirth: In the first case which I treated by the peroxide of hydrogen, the constitutional symptoms were very severe; there was a chill followed by convulsions and a temperature of 103. When I examined the throat it did not show any membrane, and simply had a dusky appearance. The other cases all showed the membrane when I saw them, together with the constitutional disturbances.

Dr. Steinke: On Saturday, 24th of November, 1888, I was called at 7 o'clock, P. M., to see a little girl, æt. 5 years, the mother telling me that she had acted queerly towards evening. She was well all day; ate a hearty dinner, but now has such a short breath, and I believe she feels sick at her stomach. I found a congested face and slight conjunctivitis; temperature 103; respirations 50; and pulse 130, but nothing else could be detected.

At 9 o'clock, P. M., symptoms in general the same; at 11:30 P. M., convulsions and nose bleeding. I examined the throat and found no inflammation of the mucous membrane nor swelling of any gland around the neck.

On the 25th, Sunday, 8 A. M., after the convulsions severe vomiting occurred. After applying several remedies, I succeeded, with much difficulty, in stopping it, and the patient slept; but there was considerable twitching of the muscles.

At 12 o'clock the same day I examined the throat again; a slight, silvery-white, leather-like membrane was growing out of the tissues of the left tonsil; no inflammation nor congestion of the mucous membrane, and no swelling of the glands; and I now made a diagnosis of diphtheria.

The family left the house, moved across the street, only the father and the hired nurse remained with the child.

Monday 26th of November, 8 A. M., there was a swelling of the left sub-maxillary gland, about four inches in diameter, the whole pharynx sloughed away, with fetid odor, constant vomiting, until four o'clock in the afternoon, when the child died from general asthenia and symptoms of profound blood poisoning. No treatment had been of any avail.

On the day of the funeral, Tuesday, 27th, I was asked to see the baby, ten months old, who was with the mother in the other house. I found a temperature of 103, respiration 48, pulse 130, enlargement of sub-maxillary glands on both sides, not the slightest degree of inflammation of the mucous membrane could be discovered.

In the afternoon, 4 o'clock, a membrane of the same character as in the first case was growing out of the tissues of each tonsil, and I likewise made a diagnosis of diphtheria.

Three days later the voice became quite hoarse. The following day there was a complete state of aphonia. On the fifth day the throat was mostly cleared up, only one patch upon the tip of the tongue and one upon the pharynx remaining. The membrane in the pharynx was an independent one; that is, it was not continuous to the larynx.

The swelling of the sub-maxillary glands had subsided.

The temperature in the afternoon went up to 105, and on the sixth day the child died of lobular pneumonitis and symptoms of uræmic blood poisoning.

Do we in reality have such a thing as an extension of the membrane in diphtheria? and do we have diphtheritic membranes first, independent of systemic affection? or do we consider diphtheria a profound blood poison with local manifestations chiefly formed as exudative membranes in the upper respiratory tract?

If the last idea should be the right one, local treatment would be useless in diphtheria.

There are two children, æt. 7 and 9 years respectively, of the same family alive.

I gave them half a tablespoonful of brandy three times a day for four weeks, and had them use a gargle of chlorate of potash glycerin and hot water.

I think the alcohol protected these children. After the house had been properly disinfected, the family moved in again, and up to this time are remaining well.

REVIEWS.

TEXT-BOOK ON MEDICAL JURISPRUDENCE AND TOXICOLOGY. By John J. Reese, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc., etc. Second Edition, Revised and Enlarged. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St. 1889. Price $3.00.

This model of a concise work on an important medico-legal subject has had the best test of its worth by having the first edition so soon exhausted.

Perhaps our readers are not so familiar with the present work as they are with the more voluminous work of Dr. Taylor, which has long been a standard reference book, and which, by the way, has been for a long time edited by the author of this new work.

The colleges have needed a good, accurate and fairly brief book on the subject of medical jurisprudence, and in the present work they have evidently found these requirements filled. If, in addition to the other courses in medicine, a knowledge were required of the larger work above referred to, the student would certainly have a steep hill to climb; but when such a simple and at the same time valuable field of information is put within such easy reach, every college should require the subject as a part of the course.

We are rather surprised to find under the *certain* signs of pregnancy, "the uterine and umbilical souffle," and then to find that the author says: "It is not an important sign of pregnancy" (referring to the former), "inasmuch as it may be heard in enlargement of the uterus from *any* cause, as by tumors, etc.;" and of the latter (the umbilical souffle): "It is more difficult to distinguish than the other sound, and is of little diagnostic importance." But this is a bagatelle amid the mass of excellent material.

As to the need of a work on medical jurisprudence it is unnecessary to say a word to those who have had occasion to deplore their ignorance and to those who have not the occasion will soon be forthcoming. We welcome the second edition of this work as an appreciation of an honest and faithful undertaking, and we tender the author and the publishers our congratulations on the same.

ELECTRICITY IN THE DISEASES OF WOMEN, WITH SPECIAL REFERENCE TO THE APPLICATION OF STRONG CURRENTS. By G. Betton Massey, M.D., Physician to the Nervous Department of Howard Hospital, etc., etc. Philadelphia and London: F. A. Davis, Publisher. 1889.

Our first impression upon glancing at this book was that like a great many others that have been written on this same subject, it had a substantial outside but nothing inside. Upon further acquaintance we find it unusually interesting and practical, and evidently written by a man who knows a good deal more about his subject than most of the practitioners of to-day who are clamoring loudly for electricity in the diseases of women.

The book gives a fair description of the differences in the therapeutic applications of the different forms of electrical currents as well as practical directions as to their use. The action of the positive and negative poles in galvanic currents is nicely stated, and Apostoli's method in the application of same clearly set forth. Cases are given, in addition, to strengthen by practical results what would seem to be rational from a theoretical standpoint. But until we know more fully the definite action of each form of electricity, local and distant, on nerve centers as well as on tissues and nerve terminals, the use of electricity must be restricted.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By Arthur Van Harlinger, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Second Edition, Enlarged and Revised, with Eight full-page plates and other illustrations. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St. 1889. Price $2.50.

This excellent little manual of skin diseases has just appeared in a second edition. The "eight full-page plates" of which so much notice is given on the title page, are not especially creditable to the book or the artist, but the excellent text on the treatment easily counterbalances any deficiencies in the line mentioned. The work has the diseases arranged in alphabetical order, which adds no little to the ease with which we can use it as a book of reference.

Some of the tables on differential diagnosis are very good; but the strong point of this hand-book is unquestionably the text on the treatment. That it has met with favor a second edition sufficiently testifies. The abscence of sufficient text in etiology and pathological anatomy may limit, but evidently has not destroyed its sphere of usefulness.

EXCESSIVE VENERY, MASTURBATION AND CONTINENCE. THE ETIOLOGY, PATHOLOGY AND TREATMENT OF THE DISEASES RESULTING FROM VENEREAL EXCESSES, MASTURBATION AND CONTINENCE. By Joseph W. Howe, M.D., Author of Emergencies, etc., etc. New York: E. B. Treat, 771 Broadway. 1888.

This work has been republished as a member of the series entitled "Medical Classics." There is nothing especially to be said about it except that in republishing there has been no effort to revise, reconstitute or improve. The errors of the former editor have been retained, and the prescriptions have not in the Latin forms been brought up to the present requirements of the pharmacopœia. There must be a demand for this literature, as a new edition of Acton's work has just been published; and the present volume is, as we have stated, a republication. Its content is perhaps of sufficient interest to warrant the purchase of the book by those who have no literature on the subject with which it deals.

OUR LIBRARY TABLE.

THE MORTON LECTURE ON CANCER AND CANCEROUS DISEASES.—By Sir Spencer Wells, Bart, F.R.C.S. Delivered at the Royal College of Surgeons of England on November 29, 1888.

The writer gives as additional reasons for the importance of the study of cancerous diseases the fact that they are increasing in spite of the great advance in sanitary science and the prolongation of the average length of human life. From the reports of the Registrar-General, he shows that the number of deaths from cancer in England increased from 7,245 in 1861 to 17,113 in 1887; that in 1861 there were 360 deaths to each million persons, and in 1887 there were 606; that there was an almost steady increase each year. He finds a similar increase in Scotland and Ireland, though the death-rate per million is much larger in the former. He states that, according to Dr. Fordyce Barker, there is a similar increase in the United States, especially in the northern States, as these diseases are much less frequent among the colored than white race.

He finds that in some districts of England the mortality from cancer is high and from phthisis is low; and *vice versa* in other districts; and especially is the increase noticeable in the large cities.

His experience would lead him to remove the entire breast in every case of cancer, except where the growths are small and close to the margin of the gland, or only affect outlying portions of the gland. He condemns the use of caustics on the ground that they are much more painful and no more certain of a cure than the knife. For cancer of the uterus, he prefers infra-vaginal amputation where the disease is strictly limited to the parts near the os; where more extension but not yet involving the peri-uterine tissues, he recommends total excision of uterus per vaginam.

PRESSURE FORCEPS *versus* THE LIGATURE AND THE SUTURE IN VAGINAL HYSTERECTOMY.—By E. C. Dudley, M.D. Reprint from Vol. XIII., "Gynæcological Transactions."

Dr. Dudley considers the following the two chief difficulties in this operation: 1, the great length of the operation; 2., imperfect hæmostasis.

To overcome these two difficulties he considers the use of pressure forceps vastly superior to that of the ligature. The forceps should be constructed on the principle of Péan, but heavier, and with jaws about two inches long; and the handles should be curved, so that when the ligament retracts they may not be thrown to the other side of the vagina. With such forceps it is easy to clamp the broad ligaments and vessels without bringing the fundus down through one of the openings previously made in the walls of vagina, and consequently avoiding the danger resulting from throwing the diseased cervix in the peritoneal cavity. He also recommends closing the wound in the peritoneum by clamping with hæmostatic forceps the anterior and posterior peritoneal edges after approximating them with tenacula. The edges are held together by three or four forceps applied in this way, the edges being tightly clamped together round the stumps which are in either end of the wound. The handles of the forceps act as drainage tubes, so we can dispense with an ordinary drainage tube. The hæmostatic forceps which hold together the edges of the wound can be removed in twenty four hours; the broad ligament forceps in forty-eight or seventy-two. He disapproves of the vaginal tampon of iodoform gauze, but recommends an antiseptic dressing over vulva and around the handles of the forceps. He thinks the mortality of the operation will be much lowered by the use of the forceps.

THE QUESTION OF INTERFERING WITH THE ABSCESSES OF HIP DISEASE. By A. B. Judson, M.D., Orthopædic Surgeon to the Out-patient Department of the New York Hospital. Reprinted from *The New York Medical Journal*, March 2nd 1889.

Dr. Judson says that the opinion that he expressed in 1885, that these abscesses should not be opened had been confirmed by subsequent experience. He said he had often seen such abscesses absorbed though, as a rule, they opened spontaneously if left alone. He argues that the abscesses and sinuses are secondary in importance to the condition of diseased bone, that they do not add to the gravity of the case because the destruction of the soft tissues are less important than that of the bone, and that they do not prolong the duration of the case because they natuarlly tend to cicatrization.

He does not think that the presence of pus forbids the repairs of carious bone. In cases where there is much general disturbance, fever, and pain; he recommends the following:—(1) to give the bone and joint absolute rest; (2) to give the most liberal and varied diet; and (3) to permit the use of opium.

ON THE RELATION OF THE NASAL AND NEUROTIC FACTORS IN THE AETIOLOGY OF ASTHMA. By F. H. Bosworth, M.D., E. L. Shurley, M.D., W. H. Daly, M.D., Andrew H. Smith, M.D., Reprint from *The New York Medical Journal*, Jan. 19, 1889.

Dr. Bosworth thinks that the dyspnœa in asthma is due to vaso-motor paralysis of the nerves regulating the size of the blood vessels of the bronchial mucous membrane and not to spasm of the muscular coat of the bronchioles. The causes of asthma he groups under three heads: (1) The neurotic habit; (2) A diseased condition of the mucous membrane; and (3) some peculiar atmospheric condition. Of all methods of treatment, he has been by far most successful by curing the nasal disorder.

Dr. Shurley, quoting from experiments on dogs, thinks the spasmodic theory the only justifiable one; and reports poor success from treatment of the nasal condition. Dr. Daly has often had success by curing the disease of the nares. Dr. Smith thinks that asthma is often due to other causes, as dyspepsia, etc.

THE COMPARATIVE MERITS OF TRACHEOTOMY AND INTUBATION IN THE TREATMENT OF CROUP. By Geo. W. Gay, M.D. Reprint from the *Boston Medical and Surgical Journal*. Oct. 11th. 1888.

From a careful comparison of statistics, the writer concludes that the mortality is about the same for both and due to the same cause in both, namely, the extension of the disease to the lungs. He recommends intubation where the patient is young and lives at a distance from skilled aid and has no one to take care of the tube, as a preliminary to tracheotomy, and with a view to euthanasia if the operator is expert. He recommends tracheotomy where intubation cannot be done or fails to give relief to dyspnoea, or when the tube is frequently rejected or stopped up, or when intubation interferes with proper amount of food being given.

ON SOME MILD MEASURES IN THE TREATMENT OF INTRA-NASAL HYPERTROPHIES AND INFLAMMATIONS. By W. H. Daly, M.D., Pittsburgh, Pa. Reprint from the *Medical and Surgical Reporter*.

After giving a short history of the advance in rhinology and laryngology the author states that in cases of hypertrophy of the turbinated bones and obstruction to nasal breathing, from such causes he had often obtained good results by incisions and punctures with a knife resembling a cataract knife, when the ordinary and more severe methods are contraindicated. He gives the history of several cases as examples of the results of such practice.

PHARMACY AND THERAPEUTICS

CLINICAL NOTES OF SULPHONAL.—We have already called attention to the fact that the indiscriminate use of sulphonal as a hypnotic, without fear of evil results, is not substantiated by facts. Dr. S. Grover Burnett (in the *New York Medical Journal*, March 2, 1889) publishes notes which further confirm these statements. He first experimented on himself, taking thirty grains, and while sleep was produced in an hour and lasted for eleven hours, he awoke with dizziness, which passed away on rising; but he suffered from muscular weakness, which lasted all day, his co-ordinating powers being quite defective. He has used it in sixteen cases of mental disease of various kinds, with good results in seventy-five per cent. of the number experimented upon; but in all cases of melancholia and one case of epileptic insanity the results were less satisfactory. In melancholia the dose had to be repeated during the night, and then only from two to four hours' sleep was obtained. To a patient with melancholia with great mental disturbance, a dose of thirty grains was given at bed-time; the patient did not sleep, and the dose was repeated at 2 A. M.; patient then slept till 1 P. M. On waking, refused food and complained of nausea; became restless at bed-time, and the dose was repeated; slept all night, and was aroused with difficulty at 9 A. M. Was cyanotic; pulse 60, weak and compressible; respiration 16, and laborious; temperature 98° F. Remained cyanotic and semi-comatose for twelve hours, taking no food. On the following day the temperature was normal, respiration 20, pulse 80, taken in the same attitude. Patient is fifty-nine years old, suffers from artero-sclerosis with compensatory cardiac hypertrophy, to which condition Dr. Burnett attributes the severity of the symptoms, and he thinks the patient would not have survived another dose within twenty-four hours.

To a lady, æt. 42 years, suffering from insomnia due to worry, thirty grains of sulphonal were given at bed-time for a week. It produced good sleep, but was followed each morning by anorexia, slight headache, and, on the fifth day, muscular inco-ordination. These symptoms gradually increased, becoming so severe on the seventh day that the medicine had to be discontinued. In three cases it produced extreme thirst, dry and parched condition of the mucous membrane of the mouth, partial suppression of the salivary secretions, anorexia, and in two cases pronounced emesis. Dr. Burnett believes that sulphonal is a reliable hypnotic in the various psychoses free from states of depression, such as mania, the maniacal stage of paresis, delusional insanity, etc., while it is less suitable for cases of melancholia with pronounced depression; is contra-indicated in arterio-sclerosis concomitant to a psychosis. He believes that it is accumulative, producing a more profound effect after the third dose, six to twenty-four hours apart, and in a small number of cases produces disorder of the digestive secretions.

While the cases in which sulphonal has failed to produce the expected result, or has even been followed by unfortunate consequences, are rapidly multiplying, it is earnestly to be hoped that the drug will not, on this account, fall into disrepute. In our minds it is, without doubt, one of the best of hypnotics, but, like all powerful agents, cannot be used indiscriminately. In some cases its use is positively counter-indicated, and in others it will fail. Fortunately, we are now beginning to recognize on clinical grounds the restrictions which should govern its use. Further, our acquaintance with its physiological action is becoming more intimate, and has been considerably improved by the report of a number of experiments made by Dr. William F. Shick in the private laboratory of Dr. Ott as to the physiological action of sulphonal $(SO_2C_2H_5)_2$, from which the author draws the following conclusions (*Journal of Mental and Nervous Disease*, January, 1889):

1. It does not affect the irritability of the motor nerves.
2. It does not alter the muscle curve.
3. The sensory nerves are left intact.
4. It depresses reflex activity mainly by an action on Setschenow's centres; occasionally it exalts reflex excitability.
5. It acts as a narcotic.
6. The pulse is usually somewhat accelerated.
7. The arterial tension, after a temporary fall, is considerably increased.
8. Respiration is depressed; section of the vagi does not alter the effect.

These facts lead him to believe that sulphonal will replace chloral to a considerable extent. The well-known dangerous action of chloral as to heart and respiration is avoided with this drug, and if the narcotic effects are equal, sulphonal should have the preference. While he has seen the heart paralyzed by the drug in a few minutes, yet it was due to the sudden action of the drug by the jugular, and perhaps partly to some of the drug being thrown down on account of its insolubility, for the solution was somewhat warmer than the temperature of the blood.—*Therapeutic Gazette.*

INHALATION OF THE IODIDE OF MERCURY IN TUBERCULOSIS OF THE LUNGS.—According to the *Pharmaceutische Post* for March 3, 1889, Miquel and Rueff have recently recommended the inhalation of the biniodide of mercury in tuberculosis, basing their opinions on a long series of careful observations made at the bedside. The result of this method of treatment, according to the authors, is a very satisfactory one—often after its first administration the cough is reduced, and the expectoration, even in individuals with large cavities, becomes reduced in quantity and loses its offensive odor. As a result of its continued employment, it is claimed that night-sweats disappear and the general condition becomes improved, the body taking on weight. Their method of employment is to dissolve one part each of biniodide of mercury and iodide of potassium in one thousand parts of distilled water. This solution is employed in the form of a spray, at first only once daily, and later, when the patients have become accustomed to it, twice daily. If it is found that the irritation from inhalation is too excessive, the solution may be reduced one-half in strength without the result being affected, since it is claimed that this preparation of mercury will destroy bacteria in concentration of one to forty thousand. One of the chief conditions of success is to prolong the use of the treatment, which may be carried out for a year or more without evil effect to the patient. If we admit that phthisis is due to the presence and growth of a bacillus, the use of such a bacteriacide would be indicated on theoretical grounds, and, as the author's experience seems to prove that its use may be persisted in without danger to the patient, it is certainly worthy of trial.

CAMPHORIC ACID.—Camphoric acid has been recently strongly recommended by Professor Reichert as useful in the treatment of acute and chronic affections of the respiratory passages. Externally he has used solutions containing from ½ to 6 per cent. of the acid, and has observed that, when applied to the mucous membrane, it appears to exercise a constringent action within two minutes, and that, besides its antiseptic properties it promotes its granulation without irritation. He recommends, in acute angina, the use of a ½ to 1 per cent. solution every three hours; in pharyngo-laryngitis, and tracheitis, the application, as a spray, of ¼ per cent. solution, increasing in strength to 1 per cent.; in acute catarrh, the introduction of wadding saturated with a 2 per cent. solution into the nose; in acute bronchitis, a 1 to 2 per cent. solution applied as a spray to the larynx. Camphoric acid forms white crystalline needles, having an acid taste; it is difficultly soluble in water, and readily soluble in alcohol, ether, or fixed oils (2 per cent.) In order to prevent it from crystallizing out from concentrated aqueous solutions, it is advisable to add about 11 per cent. of alcohol—*Phar Jour.*

SIMPLE METHOD OF TREATING CORYZA.—Camphor in various forms is frequently recommended for colds in the head, although Dr. George Johnson and others long since indicated the dangers attending the use of concentrated alcoholic solutions. The following method of application is suggested in a Swiss pharmaceutical journal, and certainly has the merit of simplicity:—A jug is half-filled with boiling water, into which a teaspoonful of well-powdered camphor is thrown. A funnel-shaped paper cap is then placed on top of the jug, and a hole torn in it just fitting the nose. The camphorated steam is inhaled through the nose for ten or fifteen minutes, the inhalation being repeated if required every four or five hours. If the patient resolutely persists with the inhalation, in spite of its unpleasantness, it is said that three repetitions will always effect a cure, however severe the coryza may be.

IODINE APPLICATIONS IN ERYSIPELAS.—Dr. Tichomirow, writing in a Russian military medical journal, recommends the employment of tincture of iodine, as an external application in erysipelas even in cases where bullæ have formed. He paints the iodine over the affected part and its vicinity three or four times a day. The irritation caused by the treatment is easily allayed by the application of a little camphorated oil. Usually he found a couple of days sufficient to reduce the infiltration and to bring the temperature down to normal. A similar mode of treatment he also considers very beneficial in cases of boils and carbuncle. Even after these have broken he recommends that the iodine should still be applied, the wound being cleansed from pus and a dressing of cotton-wool applied.

NOTE ON BROMIDA AS AN HYPNOTIC (Edward Warren-Bey, M.D., C.M., LL.D., Chevalier of the Legion of Honor).—The success which this drug has achieved in France is somewhat remarkable. The French as a nation are remarkably conservative in everything save their politics, adhering tenaciously to the ideas and objects with which they are familiar, and regarding with corresponding suspicion all novelties and innovations, especially those coming from abroad. Hence it is that the materia medica of France has not marched *pari passu* with that of its neighbors. The bromidia (Battle) at once attracted the attention of the French physicians, and their experience with it so developed their confidence in it as a prompt, reliable and harmless hypnotic that, in utter disregard of all that they had been taught and believed respecting the danger and unreliability of alien products, they promptly accorded it a place in their repertoire of remedial agents, and are now using it as freely as any medicinal preparation included in the Codex. In no other country, in fact, does it enjoy a larger measure of popularity than in France, and so great is the demand for it that it has been found necessary to manufacture it here in large quantities in an establishment especially arranged and organized for that purpose.

As no extraneous influences have been brought to bear in its favor, it has had to make its own way in the face of opposition and prejudice of the most formidable character, upon the strength alone of its virtues as a remedy for insomnia and other corresponding disturbances of the nervous system, the conclusion is legitimate that it really possesses the therapeutical properties claimed for it, that it is a hypnotic *par excellence*, and without a rival.

To those familiar with the use of bromidia (Battle) no argument like this is necessary, for it speaks for itself by fulfilling the indications for which it is administered with a certainty, efficiency, and harmlessness which elicit at once the delight of the prescriber, and give to the profession the assurance of possessing one remedy at least which approximates so near to infallibility of action as to justify the title of *specific*.—*Medical Press and Circular*, London, Eng., March 27, 1889.

CORRESPONDENCE.

MANHATTAN EYE AND EAR HOSPITAL,
103 PARK AVENUE.

THE suffering which the Manhattan Eye and Ear Hospital relieves can only be dealt with by skill and care under the most favorable circumstances. The usefulness of the institution is widely recognized. In the death of Dr. C. R. Agnew it lost its earliest and best friend, who gave to it, besides his marvelous professional skill, every possible form of needed service. The Directors propose, as a fitting memorial of Dr. Agnew, to extend the capacity of the Hospital for usefulness by raising an endowment fund, to be called the "C. R. Agnew Memorial fund," the income of which shall be applied to the running expenses of the Hospital. Could any monument more fittingly recall his unselfish services to his fellow-men? If he could be consulted, is there any expression of affectionate regard that he would so much appreciate? It is believed that there are many of his friends who will gladly contribute to this fund, to mark their sense of his own generous nature, and to aid an institution which he founded and cherished with self-denying care. It is hoped that a sum of $100,000 may be secured, which would not only be a fitting memorial of him, but also go far towards enabling the Hospital to carry on with ease its constantly increasing work.

It was for many years the anxious wish of Dr. Agnew that the Hospital should, for its own protection, and as a means of extension in the future, purchase the property immediately in its rear, now used as a livery stable, and which is liable to become very objectionable and detrimental to the Health of the inmates of the Hospital. The Directors feel that the time has now come for fulfilling Dr. Agnew's long-cherished desire, and have decided to make the purchase, and to apply so much of the "C. R. Agnew Memorial Fund" as may be required in paying for its cost. It is confidently believed that the investment will yield a net income of five per cent. per annum, until such time as the needs and means of the Hospital may justify the employment of the property for hospital purposes.

The Directors suggest that small subscriptions will be acceptable, as well as large, and that all payments can be made to suit the convenience of subscribers. A form of bequest accompanies this circular, to guide those who prefer this mode of giving.

Contributions may be sent to Mr. Charles Lanier, Treasurer, 17 Nassau Street, New York.

AUGUSTE RICHARD, } *Vice-Pres'ts.*
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NEW YORK, *March* 27, 1889.

THE TREATMENT OF ARRESTED RESPIRATION IN ANÆSTHESIA.

By Edward Martin, M.D., Instructor in Surgery, University of Pennsylvania; Surgeon to the Philadelphia Hospital and to the Philadelphia Hospital and to the Howard Hospital: and H. A. Hare, M.D., Demonstrator of Therapeutics and Instructor in Physical Diagnosis in the Medical Department, and in Physiology in the Biological Department, University of Pennsylvania.

In a paper read before the Medical Society of London, Dr. Benjamin Howard maintains the following propositions:

1. The epiglottis falls backward in apnea and closes the glottis; the first thing in order and importance in the elevation of the epiglottis.
2. Traction upon the tongue, however, and whatever the force employed, does not and cannot raise the epiglottis, as supposed.
3. The epiglottis can only be raised by extension of the head and neck.
4. The full effect of extension can only be secured with certainty by making it directed.
5. The method of making extension is as follows:

"Having, by bringing the patient to the edge of the table or bed, or by elevation of the chest, provided that the head may swing quite free, with one hand under the chin and the other on the vertex, steadily but firmly carry the head backward and downward; the neck will share the motion, which must be continued till the utmost possible extension of both head and neck are obtained. Sometimes a slight elevation and extension of the chin will at once check stertor or irregularity of breathing; but understand, the extension which can in no case do harm, should always be rather more than appears necessary. It should never be forgotten, however, that the full effects of extension, as above described, can be secured with certainty only by making the extension complete as directed."

These propositions are, in some respects, so contrary to the daily experience of surgeons and anæsthetizers, and, if well founded, are of supreme importance in cases of suspended animation that we have conducted a series of experiments designed to test, in so far as this is possible by working upon the dead body, the validity of Howard's conclusions.

Limiting our inquiry to those cases of threatened death which occur from respiratory obstruction during the administration of an anæsthetic, we must first endeavor to discover the mechanical cause which is principally operative in producing such obstruction. We presume that by apnea, Howard means, not a condition of suspended respiratory efforts through hyperoxidation of the blood, which is the true significance of the term, but cessation of respiratory movement. We cannot believe the epiglottis is chiefly at fault as an obstructive agent, because, in the vast majority of cases, the air-passage is at once made free by drawing the tongue forward; since tip traction has no effect upon the epiglottis, as stated by Howard and confirmed by our own observations, this manipulation could not relieve the breathing were the epiglottis the cause of the difficulty. The effect of traction upon the tip of the tongue is to draw this organ free from the soft palate and the post-pharyngeal wall; it is the tongue then, fallen back upon the posterior wall of the pharynx, which is the most common obstructing cause, consequently the tongue should receive the most immediate consideration. We do not for a moment deny the possibility of respiratory difficulty being caused by the epiglottis alone, though experimentally the inward passage of air was very little influenced by any position of the epiglottis, provided the tongue was carried well forward; we would insist, however, upon the position of the tongue as a matter of prime importance. Considering next the effect of tongue-traction upon the epiglottis, we are not prepared fully to endorse Howard's statement. Tip traction moves the epiglottis not at all; this we have confirmed by many trials, both in the living and in the dead subject; but if a tenaculum is fixed in the dorsum of the tongue, two and a half inches back from the tip, traction at once draws the base of the tongue and the epiglottis with it, far forward, so that the air-passage is absolutely free from the larynx to the mouth. Traction can, then, be so applied to the tongue that the epiglottis is raised, and the air-way made absolutely free, and we have devised an instrument by which this may be accomplished without the laceration attendant on the use of hooks or forceps.

Is extension of the head and neck the only method of raising the epiglottis? Again we are compelled to take exception to Howard's statement. As detailed in our experiments, the epiglottis can be raised by traction upon the dorsum of the tongue, by pressing the greater cornua of the hyoid bone forward, by the action of gravity in the abdominal decubitus, and most thoroughly by flexing the neck and extending the head upon the neck. That Howard's position accomplishes mechanically all that he claims for it, we freely grant. The way in which the soft, collapsed structures straighten under his manipulation, the tongue riding forward, and the epiglottis springing erect, is most striking; and we are convinced that the admirable mechanical explanation he gives for this effect is correct. Howard states:

" . . . by extension of the head and neck, carried to the utmost completeness, the backward fallen tongue, the velum palati, and uvula are all simultaneously shifted from the air-way, and the entire pharynx is enlarged throughout, as follows: *a.* The tongue, the dorsum of which before fell by gravitation upon the then horizontal posterior wall of the pharynx, falls upon the now horizontal arch of the palate. *b.* The velum palati, by means of the great tension of the palato-pharyngei muscles, is pulled away from the posterior wall of the pharynx, the entire membrane being stretched tightly forward and downward behind part of the dorsum of the tongue, forming a partition which helps to shut the tongue out of the pharynx and into the mouth, where it belongs, and with part of the dorsum, forms the anterior wall of a new post oral air-way, thus created and maintained. *c.* The pharynx, anteriorly, is stretched far forward by the extremely tense sternothyroid muscle acting through the thyroid cartilage, by the genio-hyoidei and mylo-hyoidei muscle acting through the os hyoidie. The base of the tongue and the velum palati are shifted forward in the manner already described, the posterior nares being shifted by the extension of the head by its occipito vertebral articulation about sixty degrees. Posteriorly, the wall of the pharynx is shifted back its whole length by the extension of the cervical vertebræ upon each other, in all about thirty degrees, extension being particularly great just opposite the glottis. Thus the upper air-way, which before was a tortuous, angular, flaccid canal—barely and, if at all, uncertainly permeable—is made an enlarged, firm, but slightly curved tube, free throughout, from the glottis to the nares."

With all this, except the backward shifting of the posterior wall of the pharynx by extension, we are fully in accord. We cannot, however, concede that his practical deduction from these facts is a step in the right direction. With the head and neck in extreme extension, the soft palate is strapped over the dorsum of the tongue, the mouth is closed from the pharynx, and the entrance of air to the lungs depends absolutely upon the condition of the nostrils. Can it be considered an additional safeguard, an improved method, to substitute for the roomy mouth, an air-way but just sufficient at the best, subject to an infinite variety of obstructions, varying in size from hour to hour, in many persons absolutely and permanently occluded? Certainly no American rhinologist would answer in the affirmative. Hypertrophies, polypoid growths, and vegetations are not the rare exception. The slightest congestion is frequently sufficient to block patulous nares. A nostril which will admit the little finger of the surgeon when the patient is standing, may become completely closed when the head is placed on a level with the body. The recumbent or independent position, the irritating effect of ether upon the mucous membrane, cephalic congestion due to insufficient oxidation, all combine to render the nostrils unsafe—in fact, absolutely impracticable—as the sole passage of communication between the lungs and the external air. We cannot believe that recourse to this method, in cases of suspended animation under anæsthetics, could be followed by favorable results; if the tongue were drawn forward, it would certainly provide ample air-way, the passage from the pharynx to the mouth being opened by this manipulation. One of the great advantages of this method, however, as claimed by Howard, is that the necessity for traction upon the tongue is entirely done away with. If the necessity for drawing forward the tongue is done away with, we cannot see that Howard's method offers any material advantage over that ordinarily practised in this city.

Our experiments show that extension of the head carried so far that the base-line (Reid's) makes an angle of somewhat more than fifty degrees to the plane of the bed or table, raises the tongue and epiglottis so entirely clear of the posterior pharynx that there is ample air-way; the soft palate, too, lies free of the post-pharyngeal wall, but is not drawn closely across the dorsum of the tongue, thus allowing respiration to take place through the mouth. If in the course of an anæsthetization there is respiratory difficulty, the method which obtains here is as follows: The chin is immediately pressed forward by the fingers placed behind the rami of the lower jaw; at the same time and by the same manipulation the head is extended, the pillow, if any has been used, being removed, if there is still apparent obstruction, the tongue is now drawn forward. With this manipulation, except in case of foreign body or abnormality of structure, the air-passage from the mouth to the larynx is absolutely free. Hereafter we may modify this method, so placing the pillow that the neck is flexed as far forward as possible, then extending the head upon the neck, as we find that this gives us wide dilatation, the posterior-pharyngeal wall representing the arc of a circle, from the concavity of which extension of the head draws forward the tongue, epiglottis and larynx. In the method as detailed above, it rarely occurs that the tongue has to be drawn forward.

Finally, we cannot grant that Howard is justified in believing of the hundred cases of death due to the administration of an anæsthetic, that in each case the epiglottis was in all probability unraised, and continued unraised until death was complete. The appearance of the parts after death cannot be taken as indicative of their relative position during life, when inspiratory efforts are still taking place, when the rigor mortis has not made the surrounding muscles more rigid than the epiglottis. Again, the very traction upon the tongue, as usually exerted, extends the head sufficiently to carry the epiglottis free of the post-pharyngeal wall. Finally, where inspiratory efforts are made there is no difficulty in determining whether or not air is entering the chest, the noise of its passage through the mouth and throat, the respiratory sounds, are sufficiently characteristic of its free entrance; while sinking in of the intercostal spaces, epigastrium and suprasternal region during an inspiratory effort, are absolutely diagnostic of obstruction. These signs, though not so patent, are still sufficiently clear in artificial respiration, and if the cause of death were, even in the majority of cases, simply obstructive, this condition of obstruction would unquestionably have been recognized and remedied, if not by position, certainly by tracheotomy or intubation.

The results of our examinations, made upon several cadavers, are as follows:

By chipping away the basilar process of the occipital bone the naso-pharynx is exposed.

Subject in the dorsal decubitus, head midway between flexion and extension, eyes looking directly upward, Reid's base-line (from the lower border of the orbit through the bony meatus) at right angles to the plane of the table.

The tongue lies in close contact with the posterior wall of the pharynx, only the tip of the epiglottis being visible. The soft palate and the dorsum of the tongue shut the mouth from the pharynx. The air-passage is completely obstructed by the tongue and epiglottis.

By means of a tenaculum passed through the tip, the tongue is seized and drawn forward as far as possible. The body of the tongue is drawn clear of the post-pharyngeal wall and the soft palate, but the hyoid bone, the base of the tongue and the epiglottis, are influenced not at all.

The tenaculum is now fixed two and a half inches from the tip; traction draws both the base of the tongue and the epiglottis well forward.

The fingers are passed behind the angles of the lower jaw, and the latter is pressed forward; this elevates the epiglottis and the base of the tongue about a quarter of an inch from the post-pharyngeal wall. Extending the head so that the base-line makes an angle of forty-five degrees with the plane of the table, draws the base of the tongue and the hyoid bone far forward, this motion being at the same time imparted to the epiglottis, so that the latter stands upright and is separated from the posterior wall of the pharynx by an interval of about an inch. By tightly closing the jaw the antero-posterior space is still further increased.

The body is drawn to the end of the table so that the head hangs free; the latter is now extended till the base-line is parallel to the plane of the table, the antero-posterior space between epiglottis and pharynx is slightly greater than that which obtains from moderate extension. At the same time the tongue drops toward the roof of the mouth, the soft palate is put upon the stretch, and the mouth cavity is shut out from that of the pharynx.

Placing the head so that the base-line is perpendicular to the plane of the table again produces complete closure of the pharynx, owing to the tongue and epiglottis falling directly backward.

Placing the fingers upon the posterior cornua of the hyoid bone and pressing the latter directly forward, carries the epiglottis and tongue about one-half inch forward, and entirely free of the post-pharyngeal wall.

With the head moderately extended and the jaw pushed forward, an effort is made to crowd the tongue and epiglottis against the post-pharyngeal wall; this is found to be impossible.

Flexing the neck by lifting the head forward (keeping the base-line perpendicular to the plane of the table) separates the post-pharynx from the epiglottis and the base of the tongue by about one-half an inch. Extending the head upon the neck, the neck being still flexed, produces a yet wider separation, the antero-posterior diameter of the breathing space being somewhat more than an inch.

Placing the body in the position of abdominal decubitus, the base-line being perpendicular to the plane of the table, the hyoid bone, base of the tongue and epiglottis all fall forward, leaving an interval of about a half inch between the epiglottis and the post-pharyngeal wall.

On elevating the shoulders, by seizing them and lifting them directly upward, this space is increased to fully an inch ; at the same time the arytenoid cartilages are drawn backward, exposing the glottis throughout its whole extent.

Bringing the body to the end of the table and letting the head droop forward (still in abdominal decubitus), thus flexing the neck to its full capacity, then extending the head at the occipito-atloid articulation, exposes the larynx more completely than any of the previous postures or manipulations.

CONCLUSIONS.—The epiglottis may prevent free entrance of air to the lungs, even though the tongue is pulled forward. Any means which accomplishes the anterior projection of the hyoid bone immediately and infallibly raises the epiglottis and the base of the tongue.

The hyoid bone may be made to project anteriorly by direct pressure upon its cornua, by direct pressure or traction applied to the dorsum of the tongue behind the anterior half arches of the palate, by the action of gravity in the abdominal decubitus, or by extension of the head upon the neck.

Extension of the head upon the neck carried as far as forty-five degrees produces practically as patulous a condition of the air-way as forced and extreme extension. At the same time this moderate extension usually leaves sufficient room between the palate and the dorsum of the tongue for breathing to continue through the mouth. In forced extension of the head and neck, the entrance of air into the lungs depends upon the sufficiency of the nasal passages.

Flexion of the neck with extension of the head upon the neck does away with the epiglottis as an obstructing factor as completely as any other posture. This is best accomplished by supporting the head upon a high pillow, then pulling it directly backward by the hand placed under the chin, so that the weight of the head falls upon the occiput rather than upon the back of the neck.

Therefore, in case of an urgent respiratory crisis in anæsthetization, we would direct that the index fingers placed behind the greater cornua of the hyoid bone, and the middle fingers resting upon the angles of the lower jaw, both these structures can be pressed directly forward, the same force also serving to extend the head upon the neck. If obstruction to breathing still persists, the tongue should be at once drawn or pushed forward by force exerted upon its dorsum posterior to the anterior half arches.

No force, unless directly applied to the tongue itself, is sufficient to prevent this organ from acting an an obstructing factor. No manipulation yet devised can, in every case, take the place of direct action.

The tongue may act either in conjunction with the pharyngeal walls or with the palate in preventing free entrance of air. If the position of moderate extension and direct traction or pressure upon the tongue fail to remove the obstruction to breathing, intubation or bronchotomy remains as the last resort.—*Med. News.*

LETTER FROM THE SAMOAN ISLANDS, TO THE "MEDICAL AND SURGICAL REPORTER."

LEONE, TUTUILA ISLAND, Feb. 1, 1889.

The Samoan Islands are especially interesting just now by reason of the war among the natives that is drawing Germany and America somewhat into the controversy. This is not the place to write of the the political aspect of these interesting islands of the South Seas, but a few of the social and medical features may be of interest to the profession

The Samoan Islands are known by geographers as the Navigator Group, and lie in latitude 12° to 15° south, and 172° longitude west. The climate is about the same as in all tropical islands, a dry and a wet season, just the reverse as regards the months, of course, of those found in lands north of the equator. It being now mid-summer here we are in the midst of the rainy season. But rain does not bother the Samoan. He has no fine clothes to spoil. His dress is nature's own —except a small waist-cloth. This is true of women and children as well as men. The latter are fond of dressing the hair of the head in most fantastic styles—with oil, stiffened with lime and adorned with fancy wooden combs. During a rain his only concern is lest his hair become wet; and until he can seek shelter, he will hold over the head a large banana leaf, or wrap one carefully over and about the hair.

Of all the South Sea Islanders these people are the finest in form and feature; stalwart, strong, with even lips and bright eyes, and a complexion pleasantly browned, they present a fine appearence; and it is said they are far more intelligent and bright than the Maori of New Zealand, the Papuas of New Guinea, or the Kanakas of Hawaii.

The island of Tutuila is one of the ports of call of the Oceanic Steamship Company of San Francisco, running to New Zealand and Australia. Sixty miles to the westward may be seen the mountain peaks of Upolo island, on which is situated Apia, and where the chief fighting is being done. Being rather warm in more ways than one there just now for an American, your correspondent contented himself with simply a view of the mountains of Upolo from the safe distance of Tutuila.

The Samoan islands are noted for being the home—natural habitat —of elephantiasis. It is endemic here. The inhabitants of Tutuila and the most eastward of the five islands constituting the group suffer most with it. Strange to say it is uncommon in the other groups quite near, as, for instance, in the Tongalabu, Society, Friendly and Fiji Islands. I can find no satisfactory explanation for this fact. The natives say it is due to being in the sea water so much; but Samoans are not exposed this way more than the other islanders. Some of the cases now in Leone are sights indeed. One tumor weighs seventy-six pounds, another forty-eight pounds, besides the frightful enlargement of the legs and arms. A woman has a labial tumor of this kind weighing fifty-six pounds. Many of the cases are among aged people, who have been affected for very many years. The natives occasionally operate on each other, using either a razor or a prepared bamboo stick, which is said to cut equally well. As a rule, however, the operations are performed by naval surgeons who may be in port on some man-of-war. Coujunctivitis is also very common among persons of all ages and in both sexes.

There are no native doctors. The natives have learned to know the value of many of the native herbs. About one hundred and twenty-five remedies are in vogue and a few of these I learned. For rheumatism the oil expressed from a plant they call Feetan is used externally, and apparently is of much value. They practice massage, and this oil is rubbed in with a prolonged "*Lumi-Lumi*" (massage) which may have much to do with the cure. This *Lumi-Lumi* is not only a medical but a social practice. It is the method of treatment holding first rank in their eyes, and one is most luxuriously rubbed and kneaded for all complaints, from ennui to the direst fevers; and a part of the hospitality of the wigwam is to offer a visitor a *Lumi-Lumi*. If one comes in from the bush tired and over-heated, he is prevailed on to put a towel about his loins in lieu of the unnatural European dress, lie down on a cocoa mat and have a skillful girl expertly knead the body; to refuse is to be uncivil, a boor. There is no thought of there being any impropriety in this massage, and there is no immorality connected with it.

Another remedy is the expressed juice of the root of the Ivi tree. The tree bears edible nuts. This medicine has a reputation among the whites as well as the natives as being most prompt in curing dysentery —a disease not uncommon in the Islands.

The Pawpaw tree flourishes in Tutuila and the fruit is used by the natives as food, and the milky juice of the unripe fruit as a digester of meats, etc. It is a veritable vegetable pepsin. If fresh meat is suspended in the tree, so that it can absorb the exhalation of the tree, the toughest meat will become tender. So powerful is the softening action of the juice that it must be used with caution, or the meat will drop to pieces. I find that some interesting experiments were made in 1879 upon this subject at the Royal Agricultural Museum, Berlin. A portion of the juice was dissolved in three times its weight in water, and this was placed with fifteen pounds of fresh lean beef in one piece in distilled water and boiled for five minutes. Below the boiling point the meat fell into several pieces and at the close of the experiment it it had separated into coarse shreds. Hard boiled albumen, digested with a little juice at a temperature of 20 degs. C., could after twenty-four hours, be easily broken up with a glass rod. The juice can be dried without losing its effect, but its efficacy in this respect does not appear to have been tested over a longer period than six months.

The Samoans have no regular meal hour. When anything comes in, or the cooking is ready, they eat. They will work all day in the bush on a young cocoanut as a diet. If there is plenty in the hut, they often will rise at midnight to eat most heartily. Like American Indians, they have a feast while food is about, even if it is a famine for days to come. Their appetite is something frightful. With the aid of some pawpaw one man will eat a sucking pig at a meal. Fish they like rare, and especially a small species—something like a sardine; only a hundred at a time will make a satisfactory meal. They sleep on cocoa mats, with a bundle of bamboo sticks as a pillow. These are hung from the beams of the hut during the day. During rough weather cocoa mat curtains can be let down around the sides of the hut, which in shape is like a large field tent, but made of a thatched roof, supported by bamboo sticks, with no flooring, No chairs are used, the position of etiquette being a squatting one, with the legs drawn underneath. If you stand while conversing with them in the "house" you must apologize, saying that you being a white man cannot easily learn their graceful postures. Fashion is as strong an autocrat in the South Seas as in Paris.

At daybreak the entire village, men, women and children go to low water mark at the ocean beach, and defecate. In case of need one may go there at any time, but the great exodus from house to "habit" is the earliest hour in the morning. A stone is used as water-closet paper. Women always urinate in a standing position; men squat. They are cleanly in their habits—wash the body after any work, first in sea water then in fresh. Soap is used when they can get it. Lime juice is a favorite application with the bath. A bark similar to soap-bark used with us in America, is used by the natives for lathering their body, as well as for general washing purposes.

Puberty begins at eleven or twelve years of age. Parturition is short and attended with but little pain. The patient is attended by neighboring women. No prevention of conception is even thought of. Not even for cleanliness sake is a wash indulged in after connection. Children are loved, and a large family honored. Even what they are able to do on their own account in child bearing does not satisfy many families, and child adoption is common, and the child adopted becomes the special pet of the household. Criminal abortion and infanticide are almost unknown. Family and marital relations are strict; prostitution is unknown in Samoa. I have the testimony of officers who have spent many months among these people that the women, both married and unmarried, are most wonderfully virtuous. It is candidly admitted by even the enemies of mission work that this has been so only since the teaching of the missionaries has begun. Those thoroughly able to judge say that secret vice has been on the increase in direct proportion to the improvement in promiscuous connections. This vice is performed in the most disgusting manner, one sex practising it on the other with hand or mouth. Twin births are very rare. I should have mentioned that the woman, after confinement, is about in a few hours, and in a day or two at her usual occupations. Great care is taken to preserve the flow of milk; large amounts of cocoanut milk are drunk to favor a full supply.

A curious custom is for each sex to remove all hair from under the arms and around the pubes. The hairs are plucked, and whatever still persists in growing is shaved off. The shaving utensil is a piece of broken bottle. It is looked upon as slovenly for men to wear whiskers, though much pride is felt in owning a handsome mustache. The bottle "razor" is also used for the face, and I understand that even the white people often get shaved by the natives in a most dexterous manner with this odd shaving utensil.

Tattooing is begun in early youth, first about the thighs, then legs and arms, in both sexes, but is more thoroughly and extensively performed on boys. The operation is so painful that usually it is extended over a number of years. The boy is not a man, however, until all the regulation amount of fashionable tattooing is completed. Quite often the tattooing sets up an undue amount of inflammation, with the result of immense sloughing sores, that leave huge ugly scars. Hope is an important element in the issue of any disease the Samoan may have. During the war, men with only slight wounds would die if they were badly frightened, and, on the other hand, brave men would be shot through the body, come into camp to have the wound dressed, and be back to the battle within an hour, and finally recover.

The usual food of the native is bread-fruit, bananas, cocoanuts, fish, fowl, and swine meat. They have a curious custom of burying a cooked biscuit made from bread-fruit, to use in case of famine, and for posterity to use in the same emergency. Some was recently unearthed near Leone, said to be fifty years old. Its smell was quite similar to that of Limburger cheese. Another remarkable custom is the religious rite of circumcision. This was found to be an established custom when they were first visited by white men.

And what do you think of the nude Samoan belle with the latest American craze of the chewing-gum habit? But in the case of the Samoan, it is her tooth-brush. The bread-fruit exudes a gummy material, which is used by the natives as a tooth-cleaner, by chewing the gum and working it about over the teeth.

It was laughable beyond measure to see the odd and delighted pranks the men and women made in looking in some small mirrors I presented to them. A partly wornout jersey was given to a family— *pater familias* confiscated it, put it on, and then looked approvingly at himself in the looking-glass. Naked as father Adam, except a crushed-raspberry colored jersey! Can you imagine his appearance?

They are very fond of perfumes, and they have discovered a number of plants in the bush which yield scents. They use them chiefly in dressing the hair. They seem to be fond of the taste of kerosene oil, as they will drink a little of it; and their method of filling a lamp would seem to confirm this. To transfer oil into a lamp, either from a bottle or another lamp, it is first put in the mouth, and then squirted into the lamp which they desire to fill. Most of the oil comes from America. Our country is lighting up the rude huts of the savages in far-away South-land. In many other ways civilization is leaving traces of its contact with these people, and many of the most curious old customs are being modified or are passing away.

Their dead are buried in the garden adjoining the hut, close by the house, so that the lights in the house may shine on the grave and cheer the spirit of the one lying there. The grave is marked all around with pieces of broken bottles or stones.

The old are honored; gray hairs are respected, though baldness is looked upon as a disgrace.

I know no part of the world that possesses so many interesting features as Polynesia. Here is the spot for the tired doctor and for his patient. It will give me pleasure to answer any communication relative to this part of the world.—C. C. VANDERBECK, M.D.

MISCELLANEOUS.

ANTISEPTIC ADVANCEMENT IN 1888.—A review of the antiseptic literature of the past year fails to disclose any notable advances in this branch of medical science. This is not due to a lessened enthusiasm in the subject, for at no time have the number of workers in bacteriological laboratories been greater, or their contributions more profuse and voluminous. The activity with which the search for new antiseptics is being prosecuted is shown by the large number of germicides which have recently been introduced, most of which, unfortunately, are rather of chemical than practical medical value. What is wanted more especially is a powerful internal disinfectant which may be administered in sufficient dose to destroy the germs of disease without endangering the life of the patient.

We are slowly learning the lesson that we have in heat an antiseptic which is at once cheap, accessible and effective. Numerous recent experiments have shown that perfect sterilization of instruments and dressings may be secured by submitting them to the action of a high temperature. It would seem, therefore, desirable practie in operations to place the instruments and sponges in boiling water for at least half an hour before they are used. The liberal irrigation of the wound with hot water during the operation is also being recommended by a constantly increasing number of surgeons on the ground that it is a good disinfectant, controls hæmorrhage, and lessens shock.

Creolin has enjoyed some popularity in Germany as an external and internal disinfectant, but some recently reported cases of poison show that the drug is not nearly as harmless as was at first thought. Acetic acid has been warmly recommended in mid-wifery practice, and its absence of poisonous properties should encourage a more extended trial. Sodium fluorsilicate, iodol, iodoform, bituminate, iodine trichloride, oxynaphtholic, carbonaphtholic, and cresylic acids, chloroform and peppermint water have been proposed as antiseptics, but present no advantages over those in common use. The compounds of naphthol are steadily increasing in popularity, especially in France, where Bouchard warmly recommends them as internal disinfectants. Recently Professor Roswell Park, of Buffalo, has made a series of careful experiments regarding the germicidal activity of various antiseptics, and expresses himself most favorably of hydronaphthol, which he has also used with great success in his practice.

It will thus be seen that while the year 1888 does not chronicle any startling discoveries in antiseptic medicine, much patient work has been done in this department, the value ot which may be later appreciated. *Int. Jour. of Surgery.*

THE PHYSICIAN'S CARE OF HIS HANDS.—Dr. George Meyer, of Berlin, writes (*Berliner klin. med. Woch.*, Jan. 14, 1889) that in these days when the physician is compelled to wash his hands frequently with disinfectants, they soon get into a deplorable condition. Redness, eczema, and small abrasions of the skin, the consequences of the frequent washings and brushing with antiseptics, are at times so annoying that in order to gain relief, temporary abstinence from the use of antiseptics seems the only remedy. Many methods have been resorted to, to render the hands soft and smooth; but one special method recommended to the author by Professor Liebreich seems especially worth mentioning.

After having washed the hands with soap, and thoroughly dried them, apply a small amount of lanolin; rub this over the entire hand, and remove *any surplus with a dry towel.* A small amount of perfume will render the preparation more acceptable. Thus, the following is very good:

℞—Lanolin	500 parts.
Vanilla	1 part.
Oil of roses	2 parts.—M.

Or

℞—Lanonlin	1000 parts.
Liquid paraffin	250 parts.
Vanilla	1 part.
Oil of roses	2 parts.—M.

For the busy practitioner, such an ointment put up in metal capsules, like oil paints, would be very useful. The author states that for years he suffered from lobster-red hands, which chapped as soon as the cold weather set in. Since using lanolin his hands have become white and smooth. He has recommended this remedy with similar benefit to actresses whose faces suffered from the application of cosmetics.

The *Archives de pharmacie* gives the following formula for lanolin cream:

℞—Lanolin	5 parts.	
Sweet oil of almonds	5 "	
Precipitated sulphur	5 "	
Oxide of zinc	2½ "	
Extract of violets	5 "	
Extract of alkanna (to give a rose color)	9½ "	—M.

—*Med. News.*

AKROMEGALY, A NEW DISEASE.—*The Rundschau* says: In 1886 the French chemical physician, M. P. Marie, described this disease for the first time. Since then, cases have been repeatedly observed in Germany, recently in the Charité of Berlin.

The disease consists in an extraordinary development of nearly all parts of the body, especially in the arms and hands, the legs, feet and the face. The affected parts increase in all dimensions, length, width and thickness of the bones as well as the soft parts, muscles and integument.

Nothing is known as yet of the cause of the malady, except that it is hereditary; as it has been observed to attack not only brothers and sisters, but also a father and his daughter (in Berlin) at the same time. The disease commences in childhood, or early youth, and both sexes are affected alike. The hands become cat-like, clumsy and shapeless, so as to be unfit for manual labor. The feet and legs assume the appearance of elephants legs, the gait becomes unelastic and heavy. The bones of the face, especially the lower jaw-bone, increase in size so enormously that by its predominance the face acquires a frightful aspect. The disease has been noticed to increase for from three to five years, when it has reached its height; afterwards advancing but slightly, or becoming stationary. It does not produce any subjective symptoms besides the discomfort caused by the growing disfigurement; but as this advances, and the patients find themselves the objects of amazement, disgust, or even abhorrence, a physical discordance takes place, terminating in shyness and shunning of society.

A direct influence of the disease on the health of the patient has not been observed.

Freund, of Strassburg, recently characterized the nature of the disease to be anomalism of development, a transgression of the physiological limits of the vegetative function; the causes of which may probably be found in a particular personal disposition.

PURER AIR FOR THE SICK-ROOM.—Every careful physician realizes the vital importance of keeping the atmosphere of the sick-room as sweet and pure as possible, yet we believe everyone has also found it a most difficult thing to do under many circumstances. A draught of cold air cannot always be permitted, while to be obliged to remain in a room not properly ventilated is at least disagreeable to the attendants, and far from refreshing to the sick.

A simple method, undoubtedly resorted to by many physicians, and which all should know about by experience, is to simply moisten a towel or sheet in a mixture of one part Platt's Chlorides, long and well known to the professor, in four parts of water, waft or snap this wetted fabric about the room a few minutes and then suspend it to the gas bracket or hook, or from the back of a chair. This solution has no odor, but the strong chemcial affinity of the Chlorides for noxious gases is such as to absorb the poisonous exhalations in the room, while the additional equivalent of oxygen given off by the Chlorides adds a most grateful and refreshing element to the air. Repeated three or four times each twenty-four hours costs but little in time or money, and may add just that one element essential to the life of the patient.

TWO NOTED EXAMPLES OF QUACKERY: THOMSON AND PERKINS. (John Crowell, M.D.)—In these days, when quackery and empiricism are reduced to a kind of refinement, and when the forms and appliances of treatment are somewhat divested of the coarseness and brutality of a former period, it may be interesting to the younger members of the medical profession to recall the romantic history of two prominent quacks of a former day—Samuel Thomson and Elisha Perkins. Both were Yankee born, and both of these remarkable men attained a notoriety for skill and deftness in the treatment of disease that seem incredible in these days of scientific methods. The career of Thomson was unique, and even to this day Thomsonionism has its votaries, and lobelia and rum sweats are retained with the tenacity of old friends.

Thomson was a man of indomitable energy, born in the wilds of New Hampshire in 1769, before the days of medical schools, and when but few foreign drugs were imported. With the resources of a genuine Yankee, he betook himself to the woods, and made a rude study of the roots and herbs indigenous to the stubborn soil. His theory was, that all disease was owing to "canker in the stomach," and, reasoning from this, it was evident that one kind of canker caused measles, another kind caused scarlet fever, or canker-rash, and so on through the long list. These various cankers he numbered 1, 2, 3, etc., and gave to each number a specific remedy of a corresponding number.

Thus, canker No. 1 must be met by lobelia; but, if the inside of the stomach was left cold, it must be warmed up by No. 2—cayenne pepper. If, during this process, the patient becomes nervous, or had convulsions, he must be treated to No. 3—nerve-root or skunk cabbage. Steaming was an adjunct in this process, and this consisted in subjecting the victim to the steam of vinegar and water. The apparatus was an open-bottomed chair, in which the patient was seated naked, but enveloped in a comforter. Underneath the chair an iron basin was placed, filled with water and vinegar, into which was plunged a red-hot stone. During this process, the poor wretch was treated to alternate doses of lobelia, cayenne pepper, or skunk cabbage, according as he was hot, cold, or "had fits." This ordeal was repeated daily, or oftener, until the subject was either cured or killed.

Thomson's fame soon spread all over New England, and he went from town to town, "doctoring" all kinds of maladies, and attaining a notoriety for skill, without precedent in the realm of quackery. His methods, however, became so harsh, and the results oftentimes so fatal, that he was repeatedly prosecuted for malpractice. He was several times imprisoned, was tried eight times for manslaughter, poisoning, and murder, but was each time acquitted. The most remarkable case for which he was tried was that of Ezra Lovett, Jr., of Beverly, Mass., and as this is a fair sample of his heroic methods, it may be interesting to give the treatment adopted in this instance, which was followed by fatal results. Nothing seemed to ail Lovett but an ordinary "cold," but Thomson took him in hand in true, heroic fashion. He first steamed him, according to rule, and, while sweltering and suffocating under the blankets, he was made to swallow a teaspoonful of lobelia, which caused vomiting, but the dose was repeated thrice in half an hour, operating with great vehemence. Then a "coffee," composed of marsh-rosemary and bay-berry bark, was given, and the victim, sweating profusely, was put into a warm bed. The treatment was continued daily, and on the third day the patient was made to walk out in the bleak air of January; then he was dosed with more lobelia and the "coffee." His debility increasing, he got six more powders of lobelia on the sixth day, when the poor fellow said he was dying, as "the medicine had got down to his navel," attended with great pain. Thomson said he would "unscrew the navel," and two strong men held Lovett while more doses of lobelia were forced down. As this process was followed by "fits," a dose of the skunk cabbage was given, when the exhausted wretch gave up the ghost.

For this barbarous maltreatment Thomson was tried for murder, but was acquitted. (See Sixth Massachusetts Reports, 134.)

Thomson attained a wider notoriety than narrow New England could afford. He went to New York in 1806, to cure yellow fever, and in 1812 he went to Washington to obtain a patent for the use of lobelia in fevers, and also for his steam-sweating. Strange to say, he came back with a patent, and formed a "Friendly Medical Society," the rights and honors to which could be obtained for $20. While in Philadelphia, the celebrated doctors Rush, Mitchell, and Barton treated him with considerable deference and "patience."

Thomsonionism was introduced into England by the Coffinites, but it met with a sterner fate there, no less than thirteen cases of manslaughter having been reported as the result of the lobelia process, modified by cayenne pepper.

Thomson had, withal, a poetic vein; and, like Silas Wegg, sometimes "dropped into verse." An amusing example is here given of his ingenious way of putting into rhyme the operation of his physic, with moral reflections:

"The emetic No. 1's designed
A general medicine for mankind,
Of every country, clime or place,
Wide as the circle of our race.

"In any case, and state, and stage,
Whatever malady may rage,
In male or female, young or old,
Half its value wont be told.

"Let No. 2 be used bold,
To clear the stomach of the cold;
Next take the coffee, No. 3,
And keep as warm as you can be.

"When sweat enough, as we suppose,
In spirit wash, and change your clothes;
Then get to bed, both clean and white,
And sleep in comfort all the night."

Elisha Perkins, the founder of Perkinism, was born in Norwich, Conn., Jan. 16, 1741. His system was much more harmless and less heroic than that of Thomson, consisting of the use of metallic "tractors," or "pullers out of disease," which he invented in 1796. These consisted of two small pieces of metal, one made of light brass, the other of polished steel. The two pieces, which were about 3½ inches long, fitted together in a groove, so as to look like one instrument when used. It was claimed that these metallic pieces possessed electrical power, and, when drawn over a part of the body affected with rheumatism, or kindred maladies, the curative effect was wonderful. The most marvellous stories were told of the results of the operation, and the magnetic and voltaic power was so great that it would operate through the clothing, without applying the instrument to the bare skin. These tractors were endorsed by the faculties of three colleges in the United States, and in England the inventor was most warmly received by the learned as a countryman of Franklin, whose scientific discoveries were interesting the civilized world. An institute was formed in England, presided over by Lord Rivers, and the learned of all professions were swift to join it. Certficates of the highest order, and of the most positive character, flooded the land, and Elisha Perkins was looked upon as a great benefactor of his race.

But exposure was near at hand, and this was made in a very adroit way by Drs. Haggaeth and Falconer, who made *wooden* tractors, and painted them so as to precisely resemble the genuine article. And, strange to say, the results produced by their use were exactly the same as those which followed the metallic wonder-workers.

The wily doctors carried on their work of deception with a high hand, even going so for as to induce people to give public thanks in the churches for their wonderful recovery. A volume was published, filled with scores of cures effected by the use of the wooden tractors, and the result was the complete overthrow of Perkins and his outrageous humbug.

The faith in these tractors, and in other methods of marvellous curing, is but a transmission of the royal faith cure, by a touch from a king's hand. For centuries, the kings of England and France had, for five guineas each, been in the habit of touching scrofulous swellings, and, by the magic power, the diseased gland would resume its normal condition. Edward, the Confessor, touched, in one year, nearly ten thousand cases, and one person was executed for high treason for speaking against the wonder-working power of his pious majesty. Edward's fame arose from the effect produced by his touch upon a suppurating gland on the neck of a pretty, young noblewoman. She dreamed that the disease would disappear if the swelling could be washed by the king's own hand. Edward complied by washing the gland with warm water. During this process the softened tumor burst, and, discharging the pus, the part soon healed. This was hailed as a miraculous result, and the fame of the King knew no bounds.

We smile at all this nonsense, and wonder at the ignorance and superstition of a former day. But a little observation will reveal the fact that, although the revolting and palpable methods have become nearly obsolete, there yet exist, in some subtle and fascinating forms, practices which will none the better stand the tests of scientific analysis. Let us be just with our own time, as well as sit in judgment upon the absurdities of the fathers.

IRRITABLE BLADDER AND FREQUENT MICTURITION IN FEMALES, Alexander Duke—This distressing complaint is commonly met with among female patients suffering from internal disease, and the diagnosis of the cause is sometimes by no means easy. In some cases where, after careful examination, we are able to exclude the urine itself as a source of irritation, and find that the uterine symptoms complained of would not be sufficient by reflex action to account for the continual annoyance, we are obliged to seek for some other cause, and I have remarked in a great number of these cases an unnatural appearance of the meatus urinarius, the opening being much smaller and rounder, reminding one somewhat of the pin-hole os seen in conjunction with conical cervix uteri. This I find is comparatively easily cured by forcible dilatation of the meatus or urethral canal, but I have noticed a rather curious phenomenon to occur during the process, that is, the escape of a considerable quantity of urine when the blades of dilator are freely opened (and this after the bladder had been but a few moments before fully emptied to all appearance by the catheter), the amount of urine escaping being fully equal in some cases to that previously removed. It has always been a puzzle to me where this urine came from, as the diagnosis of cystocele is a comparatively easy one, and a sacculated condition of the bladder could not posssibly exist in all the cases in which I have noticed this peculiarity. We all know that when there is a tendency to prolapse of the uterus, and the vaginal walls in a lax condition, cystocele is most likely to occur, the posterior wall of the bladder losing its necessary support, and so bulging backwards into vagina and forming a sac sufficient to hold a considerable quantity of urine, but it is in those cases where this factor has been carefully excluded by previous examination that I am at a loss to explain the cause of the peculiarity alluded to. Dilatation of the urethral canal I find the most useful treatment in all cases when the urine is normal, and spasm and irritability is complained of, but where there is a manifest want of tone in the bladder a mixture containing tr. ferri muriati, cantharides, and nux vomica has always given me satisfactory results. A blister over sacrum I seldom employ, but have found it useful in exceptional cases. The galvanic battery I use as a *dernier ressort* and have had most satisfactory results in some apparently hopeless cases, one lady patient having worn a urinal for more than five years night and day previous to my seeing her.—*Med. Press.*

New Cocaines.—The endless activity of synthetical chemistry has lately been markedly demonstrated in connection with cocaine. It is not so long since cocaine became of such great surgical importance, in spite of the difficulty of separating it from the leaves, and already it has been prepared artificially from benzoyl-ecgonine by introducing the methyl group into it. Recently Einhorn has announced and described three further substitution compounds in which the place of methyl is taken by other groups. One of these is the lower homologue of true cocaine, while the others are metameric or higher homologues. Two of these could not be obtained in a chrystalline form, but only in the form of oil. The third, however, and the salts of all three, are chrystallisable. So far, it has not been stated whether any of these new cocaines possess any special therapeutics properties. Judging from experience with other artificial drugs, it seems probable that they may in course of time be substituted for the true vegetable alkaloid, but that, until they can be prepared absolutely free from impurities, we shall be likely to hear further of untoward results from the use of cocaine. On the other hand, the importance of this discovery can scarcely be overestimated if it can be worked with sufficient precision to provide for an increased supply of cocaine of certain composition and good quality. Any increase in the quantity of cocoaine in the market will reduce the price and favor its more extensive employment. It remains to be seen whether the new cocaines possess similar therapeutic properties, and whether they can be prepared artificially more economically than the natural alkaloid, or will exist only as chemical curiosities.

A Cause of Nasal Obstruction.—If an anterior rhinoscopic examination of the nose be made, it will be observed that at the junction of the skin lining the vestibule with the mucous membrane lining the anterior nares, there is a projecting band of tissue running from above, backward and downward, along the outer wall of the cavity. If now the patient be directed to inspire strongly or to sniff, it will be found that this band will, at each inspiratory act, approach toward the septum of the nose so as to considerably narrow the air-passage. This band corresponds with the junction between the lower lateral cartilage of the nose and the bony margin of the anterior nares, and its position is marked externally by the depression usually seen immediately above the lower expanded part of the nose.

My attention was recently attracted to this band as a cause of nasal obstruction by observing a case in which expiration through the nose was easily performed, but in which, at each inspiration, the alæ nasi fell in to such an extent that the bands above referred to came in contact with the septum and acted as a complete valve. This patient had all the usual symptoms of nasal obstruction, but examination of the nose and naso-pharynx failed to discover any further cause of obstruction, and, indeed, it was evident that none other existed, for when the anterior nares were held open by a speculum, or by drawing the alæ nasi away from the middle line with the finger, inspiration was performed with the greatest ease.

This band can be seen more or less well marked in perfectly normal noses, but in such it produces no impediment to inspiration, as it is sufficiently far away from the septum. But in a nose in which the alæ nasi do not stand out as prominently as they should (and this we frequently see in adults as the effect of post-nasal growths in childhood), the alæ nasi fall in at each inspiration, and this band and the septum come into apposition so as to completly block the nose. The same result may be seen in cases where the anterior part of the septum deviates even slightly to one side.

I believe that this cause of nasal obstruction is usually overlooked, because the introduction of a nasal speculum, which is usually the first thing done in a rhinoscopic examimation, hides the band from view, and, at the same time, prevents it from falling in during inspiration and producing its obstructing effects.

I have not yet had the opportunity of observing the effects of treatment in this condition, but I think that the introduction of two hollow vulcanite tubes into the anterior nares at night would hold the passage open, and so prevent the dry mouth, etc., so commonly complained of in the morning, and at the same time dilate the apertures so that in time the bands referred to would be sufficiently removed from the septum to cease to do any harm.—*Dr. Edmund Roughton, British Medical Journal.*

SCULPTOR'S WHITE CLAY IN MASTITIS (Dr. E. L. Maisel, Russia). Sculptor's white clay having been used with success in epididymitis, Dr. E. L. Maisel has followed the same plan of treatment in twelve cases of mastitis. In seven of them parenchymatous mastitis (three in the stage of suppuration) was present, and in five phlegmon (in four of which resolution and one suppuration took place). Having prepared a homogeneous (lumpless) paste by mixing clay with water, he spread it in a thick, even layer over a circular piece of calico or soft gauze sufficiently large to cover the whole mamma, and containing a hole in its centre for the nipple. Then, having sponged off the breast and covered it with a piece of soft gauze, he placed above it the clay cake to fit it firmly and accurately all over the parts. The dressing was fixed by a handkerchief passing over the opposite shoulder and across the axilla of the affected side. It was changed twice a day, in the morning and evening. The results were said to be excellent. Pain was relieved very rapidly, and heat and tension strikingly decreased. When the treatment was resorted to at an early stage, no suppuration but a steady resolution ensued. In cases of suppuration the dressing promoted a speedy healing of the incision, as well as a rapid resolution of indurated nodi. White clay is a favorite remedy with the Russian peasantry. It is very cheap. Its method of application is easy, simple, and very much liked by patients. Its therapeutic properties are thought to be very considerable. White clay possesses a mighty heat-absorbing power, and hence can be employed as a most effective and convenient substitute for ice-bags and cold compresses, which are rather disliked by patients, and, at all events, involve far more trouble and time. By virtue of its producing an equal, continuous pressure on the whole breast, the clay dressing promotes absorption of morbid products. In conclusion, Dr. Maisel draws attention to the fact that sculptor's clay used in the same way renders the best possible service as a milk-inhibiting means in irritable and nervous or weak women who are unable to suckle their babies. Pain, tenderness and swelling of breasts disappear under a clay cake in about twenty-four hours.—*Annals of Surgery* for January.

NEURALGIC DYSMENORRHŒA (Dr. Porter in *Med. Counsel*).—True neuralgia of the ovaria during menstruation may continue to recur during many successive menstrual periods without producing any notable influence on the character, progress, or the duration of the menstrual flow. The pain is remittent, and has that special lancinating and suddenly intense character to which it has been found convenient to restrict the term "neuralgia." It precisely resembles neuralgia of the testes, for which pulsatilla is almost a specific. The patient fears to straighten the leg of the affected side, or to venture on any movement that may jar that part. The pain darts to the back, and often induces that special neuralgic pain, whatever its origin, which is described as an "opening and shutting" sensation; the pathological significance of this expression would seem to indicate a culmination of sensory impulses. On examination there is no notable heat or swelling other than ordinarily accompanies the menstrual period, but the local tenderness and the local pain are often described by the patient as being similar to facial neuralgia. This form of ovarian dysmenorrhœa may sometimes be distinctly traced to residence in moist localities, marshy districts, and is most frequently met with in the fall of the year.

CAUSE OF BREECH PRESENTATIONS (E. S. Mansfield in *Omaha Clinic*).—We know that very trifling conditions will often be productive of very important changes in life. Permit me here to draw your attention to one of these, of grave consequence to child and mother. I refer to the occurrence of breech presentations. In my practice of eight years in the city of Chicago, in a part of it where midwives did the most of midwifery, I came across a great number of these presentations, and after practicing in Nebraska for thirteen years, I have met but two or three of them, and have no doubt that you have had the same experience. I have tried to eliminate the conditions which the Chicago and Nebraska mothers are equally subject to, and find but one which could be blamed as a cause of the greater number of breech presentations in the city—the climbing of stairs, a practice under no condition favorable to the well-being of the woman—becomes, in my humble opinion, the prime cause of these presentations.

THE DISCOVERER OF HYDROGEN.—Yet another pretender for posthumous fame has sprung up, and, as usual, his claims are urged by an eager compatriot. It is so frequently a compatriot who endeavors to reform the history of science, that the motive might almost be assumed to be a jealous longing for the reflected glory which each great discoverer is supposed to shed upon those of his own nationality. The history of the separation and recognition of hydrogen has now been questioned, and we are asked to give up our belief in Cavendish and to bestow the credit upon a French doctor, Theodore Turquet de Mayerne, who was physician to our Charles II. What a boon it would be if everyone believed he had added one new fact to the sum of knowledge would proclaim it loudly in no uncertain tones. It is wearisome and mostly profitless to wade through the ambiguous language of earlier investigators in the endeavor to settle these international disputes.

SULPHONAL IN THE NIGHT SWEATS OF PHTHISIS.—Dr. A. Martin recommends sulphonal in thc night sweats of phthisis. He gives it in doses of 7½ grains taken before going to bed. He says it has proved very helpful, securing a quiet, natural sleep, lasting from four to six hours.—*Weiner Med. Presse.*

THE TANNIN TREATMENT OF PHTHISIS IN BRUSSELS.—Dr. E Houzé of the Hospital St. Jean, Brussels, after having tried the tannin treatment on all his phthisical patients for the last year and eight months, states as the result of his observations that it gives excellent results in all stages of the disease, and especially in the conditions where cavities exist. Indeed, he has no hesitation in declaring that of all the different kinds of treatment for phthisis which he has tried, this has given by far the most encouraging results. The dose he employs ordinarily is fifteen grains, which quantity is taken three times a day. It is, as a rule, well borne; where this is not so, it is ordered to be taken with meals. After the first few days the expectoration and the sweats diminish, the cough decreases, and in many cases the appetite undergoes a marked improvement. The majority of the patients suffered from some slight degree of constipation, though in some this feature was sufficiently marked to require treatment; while others, again, suffered from diarrhœa. The character of the expectoration changed for the better, the sputa becoming white and frothy instead of green and firm. In some cases the diminution of the expectoration was followed by increased dryness of the cough, so that the patients complained that it fatigued them more; this was easily remedied by prescribing a few spoonfuls of syrup of codeia. The physical signs underwent a remarkable change for the better, at least those depending on auscultation, moist râles giving place to dry rhonchi, and large gurgling râles decreasing progressively until they gave place to mere blowing respiration. These changes were evidently due to the drying up of the cavities, in consequence of which, the hectic, present in many cases, vanished, the patients increasing considerably in weight and gaining strength in a remarkable manner. The percussion signs were not found to undergo so marked a change as those dependent on auscutlation, but even here some improvement could be detected. No bacteriological observations were made.

DEATH OF M. CHEVREUL.—A telegram from Paris announces the death in that city of the eminent chemist, M. Chevreul, in his 103rd year. Michel Eugène Chevreul was born on August 31st, 1786, at Angers. His father was a physician. When Chevreul was 17 years of age he went to Paris, where he entered the chemical laboratory of Vauquelin. In 1810 he was charged with the duty of preparing the chemical course at the Museum of Natural History, and in 1813 was appointed Professor at the Lycée Charlemagne. In 1826 he succeeded to the chair of Proust in the chemical section of the Academy of Sciences, and in 1830 succeeded Vauquelin in the chair of Applied Chemistry attached to the Museum of Natural History. Previous to this date he had written numbers of papers, and in 1823 he collected them into a volume of *Chemical Researches on Fatty Bodies of Animal Origin*, which he dedicated to his old master. This volume contained analyses of the animal fats, including oils, butters, solid fats, and wax. At this time the analysis of organic bodies was in a sad state of confusion, and few of the chemists of this day can have an idea of the difficulties under which he worked. He had to coin the words margarine, stearin, butyric acid, oleic acid, and other terms, and his work obtained a prize of 12,000 francs from the Sociétié d'Encouragement pour l'Industrie Nationale. His labor in the cause of chemical science was continuous up to his 100th year, when his friends and admirers combined to render especial honor to the distinguished chemist. In 1879 he retired from his post as director of the museum, and had been since 1875 Grand Cross of the Legion of Honor. Of all the many works of M. Chevreul, the enumeration of which would occupy a large space, he is probably best known to the general public by those upon colors.

THE MORTALITY OF PNEUMONIA.—Dr. William Osler (*Univ. Med. Mag.*) points out that hospital statistics do not warrant the assertion that there has been any marked increase in the mortality from pneumonia of late years, as asserted by some, although the census returns of the United States favor the latter statement. But, as Dr. Billings points out, the comparison with preceding years is inaccurate, since the data were very imperfect and unreliable. At the Pennsylvania Hospital, with a total of 704 cases since 1845, the mortality has been 29.1, a rate sometimes much exceeded, as in 1875 to 1877, when it was 36.2, and sometimes quite as much lessened, as in 1845-47, when it was only 16 per cent. In the Boston City Hospital for thirteen years the mortality was also 29.1 per cent. Dr. Osler shows that in private practice the rate is lower than in hospitals, and points out that the increase of pauper populations in large cities is doubtless responsible in some measure for this diversity. Dr. Hartshorne's statement that the "morality of pneumonia to-day is, under similar circumstances, more than twice as great as it was forty years ago," is not thus borne out; and Dr. Osler shows that in many cases pneumonia is absolutely uninfluenced by treatment. Yet those cases which do call for treatment are precisely those in which our methods are most futile. Post-mortem records show how seldom a simple pneumonia, apart from chronic disease of other organs, is a cause of death, but Dr. Osler thinks that it may be useful to divide the fatal cases into three groups: "1. Those in which the death has resulted from such complications as gangrene, meningitis, and ulcerativeendocarditis—conditions at present beyond our art to remedy. 2. Cases in which death has resulted from mechanical causes—over-distension and paralysis of the right heart. 3. The large group in which death has been due to failure of the general powers under the influence of the high fever, or of the specific poison, or of both combined." He has often asked himself why death occurred in some cases, and had been struck with the distended right heart and systemic veins in the young, vigorous subjects that sometimes succumb. This seemed to indicate that the heart had failed in over-distension, and he was determined "not to let such cases die without a copious venesection." For ten years he has practiced free bleeding (twenty to twenty-five ounces) in adults, and has seen but one case recover out of twelve or fifteen. The cases of bleeding in the late stage were uniformly fatal, as if the conditions present in pneumonia are something more than mechanical.—*Lancet.*

RESTORATION OF THE PERINEUM, NEW METHOD. Hal C. Wyman, M.D., in *Am. Lancet.*—Some years ago I published an account of a method for closing the perineum, and restoring the perineal body, in cases of subinvolution, without the removal of any tissue. The cases reported at that time have all progressed favorably. Since then the operation has been performed many times, and with such uniform success that I deem it no more than proper to speak of it again. The operation, for purpose of description, may be divided into three stages. The first stage consists in introducing the finger into the rectum, pushing the recto-vaginal septum through the vulva, and making a transverse incision about three-fourths of an inch in length through the mucous membrane near where it blends with the integument, or within the mucous membrane of the rectum in cases of complete laceration of the perineum.

The second stage consists in dissecting through this incision the vaginal mucous membrane, from the recto-vaginal septum.

The third stage consists in closing the wound by carrying sutures across the denuded area, after introducing them a full half-inch back of either angle of the transverse incision. The detail of these stages are not difficult of execution. Sometimes the septum is so thin that one hesitates to attempt to dissect the vaginal mucous membrane off from it. In those cases the incision may be made to traverse the tissue a little higher up the rectum where it is much thicker. Some cases of complete laceration of the perineum, which had failed to unite after other operative methods, were successfully treated in this way, not a particle of tissue being removed from the patient.

The second stage of the operation is to be accomplished mainly with the finger and blunt-pointed scissors. The operator keeps the recto-vaginal septum tense between the left index digit in the rectum, then with his right index he crowds up the vaginal mucous membrane, or with the blunt scissors cuts or breaks the connective tissue which binds it to the septum. In some cases I have found it necessary to dissect up in this way the entire inferior half of the posterior vaginal wall. I have never seen any serious hæmorrhage nor have I known the parts to slough after such extensive separation.

I have operated in cases when the septum seemed too thin to admit of anatomical division. Sometimes the dissection is facilitated by using a blunt instrument like a lithotomy guide to hold the mucous membrane up against the anterior vaginal wall, as it is removed from the septum. The introduction of the suture must be guided by the character of the case. If there has been a complete laceration of the perineum the suture must be introduced with a long curved needle. It must begin about one-half inch from the verge of the anus in its transverse meridian on the left side, and must pass upward around the wound in the recto-vaginal septum emerging at the same point on the right side of the anus. When this suture is tied the inferior border of the transverse incision must be defended with a knot on an angle so that the knot comes across it. The second suture is introduced in the same way, only it begins about one-half inch higher on the border of the perineum and emerges on the side opposite. When it is tied the knot curves the wound, which, while it was originally transverse, is now perpendicular and corresponds as the suture progresses to the raphe of the perineum. A third suture after this manner usually finishes the operation, but some time other shallower sutures are introduced to further close the wound. For this method of operating on the perineum when it is lacerated or subinvoluted I claim the advantages of (1), easy and speedy execution; (2), a minimum of hæmorrhage; (3), greater certainty of union, because of live tension on sutures; (4), a natural and perfect perineal body; (5), its adaptability to a wider range of cases than other operations.—*Archives of Gynæcology, Obstetrics and Pædiatrics.*

MEDICAL NEWS AND NOTES.

THE GERMICIDAL ACTIVITY OF CERTAIN ANTISEPTICS.—By Roswell Park, A.M. M.D., of Buffalo. During the past year and a half Prof. Park has, in connection with his former assistant, Dr. Matzinger, carefully investigated the biological character of pus from fifty-two different patients. Simultaneously with these experiments another series was carried on to see the inhibitory power of various antiseptic substances, either recent or old. The bacteria experimented with were the pyogenic and some of the other specific forms, as well as one or two of the chromogenic. Iodoform makes a very poor showing when studied in this light, and oxide of zinc has all the good properties of iodoform and scarcely any of its disadvantages. It will be seen also that *hydronaphthol* and *boric acid* appear to best advantages under these tests. This also bears out personal experience, since the writer has, perhaps, never been disappointed in the use of either of these drugs; while for nearly two years he has been using hydronapthol solutions for every purpose for which he previously used carbolic acid.—*Medical News.*

NEW YORK STATE MEDICAL ASSOCIATION.—The fifth annual meeting of the Fifth District Branch of the N. Y. State Medical Association will be held in Brooklyn, on Tuesday, May 28, 1889. All Fellows are invited to present papers, communications, relation of cases and specimens at the meeting. All *written* communications presented will be published under the direction of the Executive Committee.

E. H SQUIBB, M.D., *Sec'y.*
P.O. Box 94, Brooklyn.

W. T. LUSK, M.D.,
President.

DR. R. H. Day, of Baton Rouge, La., has been elected to, and has accepted the position of Instructor in Diseases of Children, in the New Orleans Polyclinic.

A Correspondent of the *British Medical Journal* says: The condition of the cornea and eyeball is rightly regarded as one of the trivial signs of death. I saw a patient, however, seven hours before death, with flaccid eyeballs, so that the pupils were distorted with slight pressure, and with the cornea lustreless and covered with a glairy film, such as usually is seen only immediately preceding or after death. I may say the only sign of life from that time to her death was slow respiration, ten to the minute, there being no pulse at the wrist, and no sounds or impulse of the heart discernible. The rectal temperature was below 94°, and insensibility was complete. The case was one of alcholic poisoning.

WE are pleased to announce that Dr. Alfred L. Carroll has moved his residence from New Brighton, N. Y., to 30 West 59th street, New York City.

THE *British Medical Journal*, February 9th, publishes the conclusions arrived at by the physicians who made the autopsy on the late Crown Prince Rudolph of Austria. There seems to be no doubt that he shot himself, and the condition of the brain and skull justify the supposition that he was mentally deranged.

THE Executive Committee of the Medical Society of Virginia has appointed the following physicians to fill vacancies in the Medical Examining Board of Virginia: Drs. James W. Tankard, Dr. Paulus A. Irving, and Dr. Liegh Buckner. The *Virginia Medical Monthly* speaks highly of these men. The physicians whose resignations created the vacancies are Drs. W. W. Douglass, J. Herbert Claiborne, and Oscar Wiley.

A CONGRESS for criminal anthropology will be held in Paris during August, 1889, under the presidency of Dr. Brouardel.

THE removal of Dr. Aby as quarantine officer of New Orleans has evoked vigorous protests from his medical and political friends.

IT is said that persons rendered insensible by the inhalation of illuminating gas may be quickly restored by the administration of a few drops of acetic ether on a lump of sugar.

AUGUST MUELLER, a little boy of Germantown, Pa., met with a peculiar accident, from the effects of which he died. He pitched his umbrella into the air, but did not succeed in catching it, and one of the ribs entered his nostril. He became unconscious, and all efforts to restore him were of no avail. The umbrella rib had extended far enough up the nostril to penetrate the thin partition of the brain.

DR. JOHN SWINBURNE died at his residence in Albany on March 28th, from cancer of the stomach.

THE Queen has seen fit to recognize the services of that noble sanitarian Chadwick, now that he has passed his ninetieth year by the bestowal of knighthood. Sir Edwin Chadwick, K.C.B., has been in the forefront of nearly every reform in England for sixty years, and it will be difficult to name a man in this generation whose career has been more beneficent or knightlier than his. His large brain and dignified character have been unreservedly devoted to the cause of the lowly and oppressed.

AN epidemic of diptheria is reported to exist at Gallitzin, Pa., since November, and about 100 deaths from this disease alone have occurred during that time in a total population of 2000. The disease is attributed to the disregard of the common rules of sanitation.

AN act empowering the Governor of Florida to appoint three citizens as a State Board of Health has been passed by the Legislature. This Board is to appoint a physician as secretary and State Health Officer, with a salary of $3000 per annum.

SCARLET fever, diphtheria, and measles are extremely prevelent in New York City, as shown by the statistics of the Board of Health for the month of March. The cases of scarlet fever were 1709, while for the corresponding month of last year they numbered but 613. Cases of measles more than trebled, increasing from 236 in March, 1888, to 800 in the month just passed. Diphtheria shows a much smaller percentage of increase, the number of cases for March, 1889, being 811, while the corresponding month last year the number was 534.

A CHANGE OF EDITORS.—On account of Dr. J. J. Mulheron's acceptance of the chair of gynecology in the Michigan College of Medicine and Surgery, he found it necessary to resign the editorship of the *Medical Age*. He is succeeded by Dr. B. W. Palmer.

A FRENCH dentist, Dr. Gallippe, has recently discovered that antipyrin shows a tendency to blacken the teeth, especially when they have lost the enamel.

A NEW TÆNICIDE.—M. Thiel (*Journ. de Med. de Paris*) has examined the bark of a tree known as the "moussena," the *Acacia anthelmintica* of Baillon, growing principally in Abyssinia, and having a high reputation as a destroyer of tapeworm. It is said to be more active than koussoo, and to have a less disagreeable taste. The bark is the only part of the tree employed medicinally, and this is taken in the form of powder in doses of from one ounce to two ounces, alone, or mixed with honey and stirred up in milk. The Abyssinians mix the powder with flour, and make bread with it, and take a sufficient quantity of the bread with butter or honey three hours before the first meal in the morning. The same evening or the next day the worm is generally expelled in fragments. M. Thiel has found in the bark a substance whose chemical characteristics resemble saponine, and he calls this "moussenine."

ABDOMINAL NEPHRECTOMY.—M. Terrillon related the case of a woman who experienced for seven years previously acute pains in the in the region of the right kidney, and especially underneath the liver. At the time she noticed the existence of a tumor, which was taken for a displaced kidney. The tumor increasing, and the pain becoming insupportable, decided the woman to seek relief. She consulted M. Terrillon, who discovered an irregular and knotty tumor about the size of two fists in the right flank, and very painful to the touch; urine was normal. He diagnosed suppuration and displacement of the renal organ. Operation being consented to, an incision was made from the edge of the lower ribs to the iliac crest, the peritoneum opened, and the tumor dissected with difficulty from its capsule and separated. The capsule was finally fixed to the abdominal opening. The patient recovered.—*Med. Press and Cir.*

ACCORDING to the *Progress Medical*, Metzger, the famous *masseur* of Holland puts himself out for no one. The Empress of Austria, the princes and princesses who have undergone his treatment, have been obliged to come to him. The Pope is the only person in whom he has made an exception by visiting at Rome. His charges are the same to all. He sees no one at his house; but his patients, who come from all corners of the world, meet twice a day at the Hotel Amstel, which owes its success to Metzger, and in turn spend several minutes with the doctor, who submits them to partial massage as they need it. This specialist, as a boy, was a butcher, and his observations on the lower animals and their muscles, led him to this speciality. He studied medicine and received the degree of M.D.

FOREIGN BODY IN THE THROAT FOR EIGHT AND A HALF MONTHS.—Dr. Leyden reports an interesting case of a young lady who after swallowing a piece of bone was seized with a violent cough and pains in the neck. Careful examination with the œsophageal bougie failed to disclose the foreign body. Some months later she came under Leyden's treatment, who diagnosed laryngeal catarrh with asthmatic symptoms. All therapeutic measures, however, proved ineffectual and the author had made up his mind to send her South, when she came to him with great glee one morning and stated that the bone had been expelled in a violent fit of coughing induced by drinking a cup of hot tea. The splinter of bone was flat, but very pointed, and had a length of 2 and width of 1 centim. Strangely enough it had lain for 8½ months in the throat with causing severe symptoms. —*Allgemeine Medic. Central-Zeitung*. [P. J. R.]

A PHYSICIAN SELF-IMMOLATED.—Diphtheria has made its appearance in some of the districts in West Middlesex. Among the victims we regret to have to record the tragic death of Mr. C. J. Moore, L.F.P.S.Glas., L.S.A. His child was attacked, and he found necessary to perform tracheotomy, and it was in sucking the tube, which had become blocked, that he contracted the disease, which terminated fatally not only in his own case, but in that of his child also.

POISONED BY MISADVENTURE.—The lamentable series of these preventable misadventures still increases. The drinking of a lotion by mistake is not infrequent cause of death, and another instance is this week afforded by the case of George Fidler, aged 77. A bottle of lotion was placed side by side with that of a draught, and he drank from the wrong bottle. Were the precautions in dispensing we have long urged adopted—and even pharmaceutical authorities now admit their necessity—such lamentable and distressing accidents would be few and far between.

WATER IN OBESITY.—Lorenzen of Erlangen, has made some experiments on himself in regard to the influence of liquids on obesity. For a period of nine years he drank daily a large quantity of Erlanger beer. For four years of this period the quantity consumed daily amounted to 10 litres, or about 22 pounds; during the remainder of the period the quantity was between 5 and 7 litres, with one litre of wine. In this way he succeeded in increasing his body weight by 78 pounds. On shutting off the liquids his weight fell 14 pounds in 7 days; but when more water was taken, even without alcohol, the weight again increased. Within five weeks he reduced himself 28 pounds. Similar experiments carried out on some of his heavy colleagues, gave similar results. Lorenzen explains the disappearance of fat, when fluids are withheld, on the hypothesis that the cells, whose province it is to decompose albumen, when a large quantity of fluid is taken, now expend a part of their energy in the combustion of fat.—*Medical Press.*

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EDITORIALS.

SCARLET FEVER is undoubtedly the most significant of all the acute infectious diseases to which children are liable. The Protean shapes it assumes is as remarkable as it is inexplicable. In one epidemic the disease may be of so mild and benignant a character that almost all cases get well, in another it may assume such malignancy that the mortality is frightful, and so dread may this scourge be that in individual families every child attacked may succumb. Sydenham, who was one of the first writers to point out the differential diagnosis between *scarlet fever* and *measles*, considered it a very mild disease and hardly deserving the name of *disease*. Huxham, however, who described Angina Maligna in the preceding century doubtless included under that term cases of scarlet fever. The virus peculiar to this infection has not yet been demonstrated, notwithstanding the many efforts in this direction on the part of bacteriological investigation. The microörganisms which have up to this time been found while undoubtedly shedding light upon the source of many complications accompanying the more malignant types of this disease give us no information upon the nature of the scarlatinal *virus* itself, and hence it is not inappropriate to speak of a secondary infection in scarlatina. Crooke found on the mucous membrane of the pharynx, in the tonsils and in the cellular tissue of the neck small bacilli like the bacillus of malignant œdema and microörganisms having the appearance of mono-diplo-and streptococci. The latter were found by Fraenkel and Freudenberg in the internal organs also, and cultures showed that they were indentical with Rosenbach's *streptococcus pyogenes*. In reference to treatment *prophylaxis* presents problems which are as difficult as the they are important. The disease, as is will known, can be propagated by means of persons who are themselves in good health, by dead objects, pieces of clothing, letters, etc., or even by milk, and hence it is almost impossible to exclude the contagion. Nevertheless it must be borne in mind that there are many instances known in which the careful isolation of the sick stamped out the disease in the beginning and prevented its epidemic appearance. It is a matter of paramount importance to isolate each case and to insist upon it that all persons who are brought in contact with the patient should not come near others before changing their clothing. In any family when one of the children is attacked the others should if possible, be sent away from home at once. No child who has had scarlet fever should be allowed to return to school until every trace of desquamation has disappeared and if possible should be provided with new clothing. Schools in which a number of cases of scarlet fever have developed in quick succession should be closed. The aim of our therapeutical endeavours should be in uncomplicated cases to moderate the fever and avoid the occurrence of complications. These two indications are both satisfied by a resort to hydrotherapeutic measures. We cannot speak in too commendatory terms of the value of cold baths in this disease. The value of this procedure recommended by Currie with so much enthusiasm in the beginning of this century has been extolled in the highest terms by many of the best clinical observers of modern times, especially by Von Ziemssen. An excellent way of lowering the temperature and at the same time of exhilarating the nervous system is the application of the wet pack. The patient being stripped and wrapped in a sheet wrung out of cold water. The patient remains in the pack for ten minutes, and three should be applied in succession. In the treatment of malignant cases it is all important to sustain the circulation and hence coffee, brandy and camphor must be called into requsition. The latter must be given at times subcutaneously. Of the complications *diphtheria* is of the first importance. In the beginning before the glands are much affected the local application of Resorcin is very effective. Spraying the throat with lime water is thought to facilitate the separation of the membranes, one percent. solution of chloride of sodium should be used as a nasal douche. In *otitis* it is a good practice to resort to paracentesis of the drum of the ear in time, as much harm in this way may be averted. As *nephritis* may follow the mildest form of scarlet fever it is well that the physician should call the attention of the parents to the possibility of this complication. In its treatment the consistent use of a milk diet is all important. The function of the skin must be called into play by the use of warm baths followed by wrapping the patient in blankets, so as to cause profuse perspiration. When the urine is scanty and free from blood and shows an excessive quantity of albumen and the microscope reveals fatty, granular cylinders, the use of diuretics is indicated, especially potassium acetate and infusion of digitalis, in addition to the baths. Abscesses of the lymphatic glands and phlegmonous inflammation must be treated on general surgical principles having strict regard to antiseptic precautions. It should be mentioned that when diphtheria shows itself and the glands of the neck begin to swell rapidly the method of *porenchymatous injections* of a 3% solution of carbolic acid, introduced by Traube and Heubner are worthy of trial. These injections are made into the tissues of the tonsils or the soft palate on each side, twice a day, half of a hyperdermic syringeful being injected each time by a specially constructed needle.

In a paper read before the Practitioners Society of New York, Dr. Geo. F. Shrady ventilated quite thoroughly the subject of etherization. His object was to call attention to some of the abuses in etherization and rather particularly it seems to inveigh against the practice of placing the etherization in the hands of inexperienced junior assistants in hospitals.

The paper was likewise not without a certain amount of humor, characteristic of the writer.

The conclusions arrived at by the essayist were quite in bearing with our own opinions and any criticism that can be made of it, will chiefly be in the line of extending the propositions therein contained. Amongst many excellent conclusions the essayist remarked that no more force than is necessary should be used to control the patient during the primary anæsthesia. Several apparently well authenticated cases of fracture of the ribs of patients owing to the pressure, presumably of the attendants' knees in the endeavor to restrain them during the process of etherization, brings this conclusion forcibly home to our minds. It is, however, a difficult matter to regulate the restraint so as to prevent disaster, seeing that at times patients become suddenly frenzied, or at others, feign resignation and then suddenly burst into maniac-like struggles for breath and freedom. These out-bursts cannot be attributed in all cases to "crowding" of the anæsthetic though at times it is unquestionably due to this error in administration. It is a difficult matter to regulate the force necessary to simply restrain a patient in the throes of primary anæsthesia, but it is certainly unnecessary that any ribs should be broken.

The conclusion that etherization should be left to experienced administrators only, is open to criticism. A man becomes senior assistant in a hospital by virtue of passing through the junior-ship; there he is expected to acquire that experience which will fit him for the seniorship. To take the ether cone from the hands of junior assistants and put it in the hands of the seniors will rob the former of the experience which they are seeking. It may be well for a generation of senior assistants but it will ultimately cause the destruction of the race of ether-givers. To our mind it seems more reasonable to leave etherization to the juniors but to place over them, until they are proficient, some one who is experienced. Let them be shown, *practically*, how to give ether; let them not teach themselves.

Not by any means the least important thing to know in causing anæsthesia is the knowledge of the signs by which the patient may be recognzied as profoundly anæsthetized. Various signs are said to indicate this state, such as the listless dropping of the arms when raised and let go, etc., but the sign which seems most certain, of the existence of which most anæsthetizers apparently desire to convince themselves, is the insensibility of the cornea, and with a view to ascertaining whether this condition exists, the thumb or fore finger is unceremoniously stuck into the eye. It is quite unnecessary to enumerate the signs of profound anæsthesia; it likewise is unnecessary to repeatedly stick one's finger into the patients eye, to assure one's self of the existence of profound sleep. An infection of the conjunctiva can easily be caused by such a thing and what is still easier the corneal epithelium may be abraded and kratitis may ensue, which it is presumably not the purpose of the surgeon to cause. The necessary conditions for causing etherization are ether, a cone, a patient and some one to administer the ether but it requires a vast amount of skill and good judgment to cause anæsthesia properly and this skill and judgment cannot be obtained except through experience. Junior assistants in hospitals must learn to give ether, they can never learn it by looking on. When the cone is entrusted to them in the beginning, some one experienced should be placed over them, to correct errors and watch the condition of the patient.

THE CENTRAL TEXAS MEDICAL ASSOCIATION.—The Central Texas Medical Association is auxilliary to the State Medical Association. It meets in Waco, on the Second Tuesday in January, April, July and October. Its membership numbers about eighty physicians, all regular practitioners of Central Texas, graduates of recognized medical colleges.

The officers of the Association are: Dr. H. C. Ghent, of Belton, President; Dr. P. M. Kuykendall, of Moody, First Vice-President; Dr. W. C. Blalock, of Kosse, Second Vice-President; Dr. J. B. Robertson, of Goliad, Third Vice-President; Dr. W. O. Wilkes, of Waco, Secretary; Dr. S. E. Shelton, of Waco, Treasurer; Dr. R. C. Brown, of Waco, Corresponding Secretary.

At the recent meeting Tuesday, April 9th about sixty physicians were in attendance, and the meeting was by far the most interesting in the history of the Association.

Papers were read as follows: Dr. W. A. Howard, "Malari Hæmaturia;" Dr. J. H. Sears, "Antiseptics in Obstetrics;" Dr. A. M. Curtis, "Antiseptics in Obstetrics;" Dr. S. E. Shelton, "Pernicious Vomiting of Pregnancy;" Prof. W. H. Wathen, of Louisville, Ky., "Rupture of the Uterus;" Dr. R. W. Park, "A strange Case of Gangrene;" Dr. W. L. Barker, "Case of Malignant Tumor of the Abdomen in a Boy," with presentation of post-mortem specimen. A paper by Dr. Robert Battey, of Rome, Ga., arrived too late to be read this meeting but will be presented at the meeting in July.

Individual reports of cases followed and the discussion of the papers and cases was long and very interesting.

The following subjects and writers were appointed for the July meeting: "Puerperal Eclampsia," Dr. J. C. Shaw; "Placenta Prævia," Dr. W. H. Wilkes; "The Antipyretics," Dr. C. F. Paine; "Fracture of the Femur," Dr. A. H. Snead; "Tobacco Chewing as a Preventive for Consumption," Dr. J. W. Cock.

The Association was only organized in October, 1886, but very good work is expected from its youthful strength and vigor, its fine constitution and well trained members. We will watch its course with much interest.

In another department we publish the text of a pamphlet from the "Agnew Memorial Fund of the Manhattan Eye and Ear Hospital."

It is proposed to raise $100,000 for the sake of extending the hospital. The extension will probably be dedicated in some way to Dr. Agnew.

Dr. Angew was the founder of the Manhattan Hospital and its friend and supporter through all the years of his professional life. He gave it not only his time and wonderful skill but was a frequent contributor to its strong-box; and to his excellent administration and constructive genius the past and present success of the institution is unquestionably in large measure due.

Accompanying the text of the pamphlet is the "form of bequest to the Manhattan Eye and Ear Hospital" for the Agnew Memorial Fund.

To those of our readers who wish to advance the cause of science and pay a tribute to the memory of a great man, a skillful surgeon, a humanitarian, a christian and an incorruptible gentleman, we point out the dumb eloquence of this appeal.

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ORIGINAL ARTICLES.

ARTICLE I.

ADDRESS DELIVERED BEFORE THE WOMAN'S HOSPITAL ALUMNI ASSOCIATION AT ITS ANNUAL MEETING FEB. 27, 1889.

BY GEORGE TUCKER HARRISON, M. A., M. D.

The first and most pleasing duty which devolves upon me on assuming this Presidential chair, to which your suffrages have called me, is to thank you for the high honor you have conferred upon me, and this I do from the bottom of my heart.

The excellent paper read by Dr. Hunter before you, at our second Annual Meeting, upon the influence of the Woman's Hospital shows conclusively that this influence has been great, but still, I think, fails to do adequate justice to its significance. According to Kleinwächter "Although Germany now maintains its supremacy in Obstetrics the same cannot be said, unconditionally, with regard to gynæcology. In this specialty North America strives for the primacy. After the death of Kiwisch gynæcology made only slight advances in Germany, whilst at the same time in North America it rose within a short time to an astonishing height, especially in an operative direction. Beginning with the year 1870 Germany retrieved its neglect within a few years. The stimulus was derived in great part from the work of Sims, "Clinical Notes on Uterine Surgery," which first made Germany familiar with American gynæcology." Rheinstaedter, in his valuable clinical work, speaks as follows. "I believe I am in accord with the views of most gynæcologists, when I designate the *Uterine Surgery* of Marion Sims, which appeared in 1866, as the beginning of Modern gynæcology. While up to that time the entire gynæcological diagnosis depended on finger, speculum and sound, this book, the contents of which at first called forth derision on many sides, as "American hunting stories," taught us how to investigate the contents of the pelvis, by *bimanual palpation*, with an accuracy possible in no other organs of the human body. Any one who had to have recourse to the previous diagnostic helps, will agree with me that the name Marion Sims, even if we owed the man nothing else than the introduction of *bimanual palpation*, will remain forever a boundary stone in gynæcology." Speaking of the Sims' speculum, Fritsch uses this language, "the idea of this speculum originates from *Marion Sims*, who may be called the creator of the entire newer gynæcology. If all that he asserts is not correct, he has yet pointed out new ways of investigation. He first made gynæcology *surgical* according to principle, and it is the maintenance of this direction that has produced for gynæcology its modern triumphs." Testimony like the foregoing, which can easily be fortified by further citations, proves beyond a shadow of doubt that surgical gynæcology owes to the Woman's Hospital an impayable debt of gratitude, through the splendid achievement of Sims and his successors. The question which now confronts us, however, is this: has not operative gynæcology gone forward with too gigantic strides so as to leave pathalogical anatomy too far in the rear? Is it not true that operative procedures are recommended and practiced in this domain, which are without scientific indications and which can be substituted by milder measures which do not compromise the safety of the patient? Is it not a fact that, repeatedly, one or both ovaries have been removed by the gynæcologist in the belief that the source of the patients' annoyance was here to be found, and yet the pathological anatomist could find no such morbid alterations of structure as would seem to justify the operative intervention. A profounder study of the chronic diseases of the fallopian tubes and ovaries would, therefore, be extremely advisable, as, also, a closer scrutiny into the results of operations performed for such alleged diseases. It is very important, in the first place, to know *when* the ovary is diseased. Heretofore, we must confess, science has not thrown much light on the subject of chronic oöphoritis. It is a matter of congratulation, in these circumstances, that Dr. Nagel of Berlin, in a recent number of the Archiv für gynaekologie, has published an article upon the title, "Contribution to the anatomy of healthy and diseased ovaries," which helps greatly to a better comprehension of this theme. His investigations were made upon a number of diseased ovaries which had been extirpated by Gusserow during the year 1887. As a result of his studies he arrived at the following conclusions—That change in the ovaries, of quite frequent occurrence, known by the name of "small cystic follicular degeneration" or "small cystic degeneration" and considered to be the follicular form of chronic oöphoritis, is not to be regarded as anything pathological. The follicles retain their normal structure, the ovum, and follicular wall are intact. But if the follicular walls are normal and the ova contained in them are healthy, we are not justified in assuming a pathological condition, however large the follicles are, and, however numerous they may be. How large the mature-follicles may become is not yet by any means determined, but the simple multiplication of the perceptible Graafian follicles is a physiological condition which depends on individuality and never occurs as the result of a disease of the ovarion stroma. *Hydrops folliculi* has pathological significance only as a secondary phenomenon. Follicles thus affected only occur in other diseases of the ovarian stroma and never attain a considerable size, since an atrophy of the follicular wall goes hand in hand with the pathological accumulation of fluid and the degeneration of the ovum, which renders possible the absortion of the accumulated fluid. The unilocular, smooth-walled cysts, with serous contents, a little larger than a walnut, which are described in the literature Dr. Nagel thinks are possibly cystic degenerations of the *Corpus luteum.*

The anatomical substratum of chronic oöphoritis is interstitial inflammation, which scarce exists as a primary disease; on the contrary, all forms of interstitial oöphoritis are to be regarded as propagated inflammatory conditions. The most frequent cause is a circumscribed peritonitis, and the process attacks first the peripheral parts in order gradually to advance to the deeper. The pathological condition was named by Kiwisch and Klob *diffuse connective tissue proliferation* or *simple hypertrophy* and new formation of tissue; it is not attended with any infiltration of small cells. The follicles retain their normal appearance and continue to bear and nourish ova capable of development for a remarkably long time after the onset of the inflammation. As Slaviansky had already shown, the follicles begin to wither so soon as the disease of the interstitial tissue has attained a certain degree. Only in one case did the anatomical condition indicate that the disease began as an *acute interstitial oöphoriteis.* This form leads to the hypertrophy with thickening of tissue described by Kiwisch and Klob, in which the ovaries may be as large as the egg of a goose, and the surface appear like a mulberry. In all the ovaries investigated by Dr. Nagel which had been extirpated by Professor Gusserow, the pathological changes as revealed by the mircroscope were of such a tangible character as fully to vindicate the propriety of operative intervention.

The regenerative power of the ovarian stroma was fully taken into account in forming this opinion, and a *restitutio ad integrum* was not to be thought of in any one of the cases. Especially important do I deem the following clinical deductions which Dr. Nagel draws from his pathological studies, they are well worth pondering. "With this exposition," he remarks, "I have no intention to promote rashness in operating. On the contrary, it is undoubtedly correct to follow the example of Gusserow and only then to decide upon an operation, when other treatment continued, it may be for years, has been attended with no results in the way of relief, and clinical examination can demonstrate an anatomical change. Only as a last means is oöphorectomy to be regarded as justified." If I have dwelt upon this author's researches at some length, it is because I regard them as furnishing a model to guide you in similar researches, and because they indicate the direction in which you should direct your efforts. But while I would urge you to pathological studies and researches, let me here deprecate anything like a retrograde movement tending to abate our present attainments in gynæcological surgery. Such a movement, as most of you are undoubtedly aware, has been set on foot by Dr. Noeggerath, formerly a surgeon in the Woman's Hospital for a brief period.

At the meeting of the "German Naturalists and Physicians" held at Wiesbaden in September, 1887, he read a paper before the gynæcological section, in which he denies absolutely that cervical lacerations, even of the most severe nature, exert any causative influence in the production of those uterine disorders and symptoms commonly attributed to their presence.

In a recent number of the *Berliner Klineiche Wochenscrift* he advocates like views. He further maintains that lacerations are only of importance immediately after labor, when they may open up the blood and lymph vessels, allowing hæmorrhage and the entrance of pathogenic microbes into the organism, and that the time will come when they will be stricken from the list of pathological conditions of the uterus. He formulates his views by laying down seven propositions which he defends in succession. In the March number of the *American Journal of Obstetrics*, 1888, will be found a paper by Dr. Brook H. Wells, of this city who refutes Dr. Noeggeraths' conclusions in a most masterly manner. The clinical facts on which Dr. Wells has relied were furnished by Dr. Mundé, who placed his private record books at the disposal of the former. To those who have not read this article I would cordially commend its perusal. Emmet's operation of hystero-trachelorrhaphy has not been shaken by these and like attacks, for it rests on the immovable rock of truth. In conclusion let us of the Woman's Hospital alumni recollect, that in a sense we may be said to enjoy as belonging to us the glorious achievements of these masters of gynæcological science who have in the past upheld the fame of the Woman's Hospital. To my younger colleagues especially would I urge the paramount importance and duty of doing what they may to promote the welfare and honor of this organization which began its career under such happy auspices. Let the love of science fill your souls and stir ambition's zeal. Many a truth yet lies dormant like little Thornrose of the exquisite fairy tale, so charmingly told by the brothers Grimm, who must in profound slumber await the arrival of that adventurous king's son whose enthusiasm no difficulties could daunt, to spring into life and beauty by the imprint of a kiss. And so may it be reserved for one of you sons of kingly science to wake to life some grand truth now dormant, and may you find a Grimm to hand your name down to distant ages.

ARTICLE II.

TREATMENT OF RUPTURE OF THE UTERUS.*

By WM. H. WATHEN, of Louisville, Kentucky,

Professor of Obstetrics and Diseases of Women in the Kentucky
School of Medicine, ex-President of the Kentucky State Medical Society, Chairman of the Section on Obstetrics and
Gynecology of the American Medical Association;
Consulting Gynecologist to the Louisville
City Hospital, etc.

Spontaneous or accidental rupture of the uterus occurs so infrequently during the early months of pregnancy, that I will not consider the treatment of this variety, but will confine my remarks to the treatment of rupture of the uterus during labor at or near term.

The frequency of rupture of the uterus has been variously estimated, but probably it does not occur more than once in 3000 or 4000 labors, hence a physician of large experience may never have seen a case. But this offers no excuse for neglecting the study of this important subject, and we should all know the methods of treatment that have been recommended or practiced, so as to adopt that which is followed by the best results.

The symptoms of rupture of the uterus are usually so well marked that a diagnosis can generally be made, and especially is this true, where we make a careful physical examination. I have seen but one case of uterine rupture, and in this patient there was no difficulty in making a diagnosis. Rupture of the uterus can not always be anticipated, but in pelvic deformities, or unusual obstruction to natural delivery, or pelvic or uterine tumors, rigidity of the os, bands in the vagina, hydrocephalus of the child, or in inordinate uterine contractions, cicatrices of the uterus from former wounds, and in previous disease or weakening of the uterine walls, there is danger of rupture which may be prevented.

But I can only allude to this part of the subject. An experienced obstetrician may adopt means to prevent this accident—such as dilatation of the neck, removing obstructions to delivery, correcting malpositions, the application of the forceps, and the control of inordinate uterine contractions by chloroform or morphine.

The treatment when rupture has occurred may be divided as follows: expectation, extraction per vias naturales, and abdominal section.

---

* Read before Central Texas Medical Association, Tuesday April 9, 1889.

The expectant treatment has resulted in but few recoveries—in 144 cases all were fatal except two—and it is probably unfortunate that any recovered, for an occasional successful result may afford the semblance of an excuse for some ignorant and timid persons not to interfere. But the science of obstetrical surgery is advancing so rapidly that I doubt if any well civilized people will, after a while, tolerate any physician who would, by election, treat a case of rupture after the expectant method. I can imagine no instance where such treatment would be indicated, unless it be in rupture in the early months of pregnancy. Nor do I believe it wise to remove the child per vias naturales if all the coats of the uterus are ruptured, unless we afterward do abdominal section and remove all foreign matter from the abdominal cavity—blood, bloody serum and liquor amnii—if this is not done the women's life is in jeopardy, for it is not possible to know the perfection of drainage into the vagina through the rent.

Mundé concludes, that not more than 16 per cent. of all cases treated by forceps extraction, turning and extraction, and perforation, or abandoned undelivered, recover. This per cent. of recoveries is too high; successful cases are relatively more frequently reported than fatal ones. I do not believe that more than 10 per cent. of cases of rupture during labor, at or near term, in which abdominal section is not done, get well. If the rent is in the posterior part of the uterus and extends into the vagina so as to give better drainage, the woman may recover without abdominal section; but if blood, bloody serum, or liquor amnii, has entered into the peritoneal cavity, she would probably die. Nor is it always possible to decide how much, if any, of the discharges has gone into the cavity until we open the abdomen and examine it carefully. This examination cannot be successfully made through the vagina. I am positively in favor of laparotomy where the rent extends through all the coats of the uterus. The child may be more easily removed through the vagina, but abdominal section should then be done, and the peritonital cavity cleansed as carefully as in best work in laparotomy for the removal of ovaries, tubes, etc. Rupture of the uterus does not usually end fatally by immediate hemorrhage, or by primary shock, and abdominal section adds but few dangers and removes many. If perfect surgical cleanliness is observed, and the abdominal cavity made aseptic before decomposition of retained matter, or peritonitis ensues, no untoward symptom may result from the operation; the peritoneal cavity and the vagina may be made aseptic by irrigation with hot water before closure of the abdominal wound.

The statistics of Trask in 1856, and of Jolly in 1870, should have determined the method of delivery. In the former, the mortality in abdominal section was 24 per cent., and when treated by other means, or abandoned, it was 71 + per cent. In the latter, the mortality in abdominal section was 31.6 per cent. and when treated by other methods, or abandoned undelivered, it was 86 + per cent. Harris in in 1880 gives the percentage of successful American puerperal abdominal sections at 53 per cent. While these results positively indicate the superiority of abdominal section to any or all other methods of treatment, a further argument in its favor is, that these operations were done when the medical profession knew comparatively little about the technique that is now so rigidly observed by all men who do good abdominal surgery.

Bandelocque gives the age of puerperal abdominal section at 121 years, and operation was done only a few times before the year 1800. It is probable that the first successful case was published by Thibaut des Bois, of Mans, in 1768. M. Labron operated twice successfully on the same woman, in 1775 and 1776. The first operation in this country was done by Dr. Dougal and Dr. Thomas, of Pennsylvania, in 1827, and the second by Dr. Delafield of New York, in 1828. But in no operation before 1878 was the uterus removed, or the uterine wound sutured. In 1878 Dr. Prèvot, of the Imperial Foundling Hospital, of Moscow, Russia, extirpated a ruptured uterus; the woman died of hemorrhage caused by rapid softening and involution of the tissues included in the ligature. In 1879 Dr. J. N. McCormack, of Bowling Green, Kentucky, sutured the wound in the uterus; the woman recovered and is now living.

It is hardly neccessary to mention, that nearly every recognized authority in obstetrics or gynecology, recommends abdominal section in rupture of the uterus. My special purpose in writing this paper is to consider the best and most successful method of treating the uterus when the abdominal cavity has been opened. If the cavity is closed without suturing the uterine wound, the blood and the lochia will probably get into the peritoneal cavity through the rent and cause death by septic peritonitis. The uterine laceration may be sutured after the fashion observed in the improved Cæsarean section, or the uterus may be amputated at the super-vaginal neck and the pedicle treated in the lower angle of the abdominal incision. But the torn edges are usually so jagged or irregular, that it is difficult to suture the uterine muscularis and to apply the sero-serous sutures, so as to prevent blood or lochia getting into the peritonal cavity, or to get union of the torn edges. This may be done where the tissues are healthy and the tear regular and even.

Amputation of the uterus is especially indicated where there is retention of tissue elements in fatty degeneration due to malnutrition, or to retention of elements or substances that would impoison the blood, such as gangrene, putrid fetus, etc. The amputation, if correctly done, does not increase the dangers, the mischief being already done by rending the uterine tissues and hemorrhage into the peritoneal cavity; and the profound shock of the nervous system will often be exaggerated by further hemorrhage, if we delay. The amputation must be done as an operation of election, for if performed as a *dernier ressort*, we must not expect success. All the puerperal changes are against the late operation; for in the absence of shock, adventitious sacs, plastic adhesions, etc., will have formed, will prove troublesome and will prevent success. The operation, if done after the most approved fashion, is relatively full of simplicity, and requires but few instruments or appliances. The abdominal incision should be made in the middle line below the navel, long enough to admit the hand and to allow the child to be drawn away. When the child and the placenta are removed, throw a gum drainage tube over the fundus of the uterus and bring it down nearly to the vaginal attachment, being careful not to include the intestines; if gum drainage tube or ligature cannot be obtained, we may substitute a strong cord made of made of silk, cotton, or flax thread. The ligature should be drawn as tightly as possible and tied firmly. The uterus may then drawn out of the abdoman and amputated at a half to three-quarters of an inch above the ligature. Knitting needles should be introduced through the ligature and through the cervix and the pedicle fixed in the lower angle of the abdominal incision, and touched with perchloride of iron. The abdomen may then be cleansed, sutured and closed after the usual fashion and the external dressing applied. However, if the laceration extends into the vagina and cannot all be closed by the ligature around the cervix, it would be a wise precaution to drain through the vagina by introducing a gum drainage tube through the rent into the peritoneal cavity before closing the abdominal incision. The tube should be introduced from the abdominal cavity through the rent and out through the vulva.

ARTICLE III.

THE PRACTICABILITY OF YELLOW FEVER INOCULATION AS A PROPHYLACTIC MEASURE.

By J. McFADDEN GASTON, M.D., ATLANTA, GA.

The question as to the possibility of securing protection from the access of yellow fever by inoculation with the attenuated virus may be considered under the two aspects of theory and practical results. Upon the hypothesis of a germ origin of the disease, the self-limiting character of the affection, and the comparative immunity conferred upon the subject by an attack which runs its course in a regular form, there is a presumption in favor of utilizing the causative element, if it has been or can be discovered, as the material for inoculation. How far the investigations made thus far are to be relied upon in the identification of the *materies morbi*, depends upon the capacity of observers for correctly appreciating the conditions involved in such an examination, and their trustworthiness in repeating the results of microscopic developments. If a claim on the part of any observer to have uniformly detected in connection with yellow fever a living organism of a distinctive form is verified, it may be reasonably inferred that others should in like manner by the same process discover the presence of this element. But it would not necessarily follow, that the failure to find such an organism, should set aside the correctness of such observations; as negative testimony can never disprove positive evidence of a fact. While science has made great advances in microscopic data all are aware of the uncertainty of all such revelations and we are prepared to expect divers conclusions from different individuals equally qualified to conduct an investigation in bacteriology. The uninitated members of the medical profession who are totally disqualified for this special work are left without chart or compass to guide them amidst the sea of doubts presented by the discrepancy of microscopic observations, and their only resource is to fall back upon the means available to the ancient mariner, in the use of the great land marks recognized by all for steering safely into port. The exercise of common sense as an adjunct to scientific investigations is the most important qualification of the expert, and without such accurate discrimination of the true and false data, all the delicacy and tact in the mode of proceeding leads to no practical benefits. The adept in ledgerdemain succeeds in playing off a deception upon the looker-on, without affording any clue to the intermediate steps of this performance; and the great mass of the medical profession stand very much in the same relation to the bacteriologist in this search after the microbes of yellow fever. He goes through his processes of culture and eliminations, little understood by the great majority of the profession and gives the results in gelatine productives for inspection, insisting upon their correctness as a foregone conclusion.

Far be it from my purpose, to cast any slur upon accurate scientific investigations with the microscope; but it is very clear that pre-concieved views and a reaching out to sustain such views, may lead to inferences from observation, which are not consistent with well established scientific principles. It therefore devolves upon all who seek the truth to scrutinize closely all the influences which may operate to vitiate the results of the inquiry, as to the efficacy of yellow fever inoculation as a prophylactic measure.

I have not entered into this discussion without counting the cost, but am fully impressed with the difficulties which environ the true solution of the problem; and have studied carefully the tremendous consequences of an error in the calculations which may determine the value of the equations involved in the conclusions.

The intelligent philosopher, who occupies an independent standpoint, may wonder why an humble practitioner of the healing art, who makes no pretentions to proficiency in the lore of bacteriology, should undertake to pass judgment upon the investigations of specialists in this department, or to make suggestions for the guidance of his colleagues, in attempting to separate the wheat from the tares in this matter.

But it is well known that a looker-on at a combat may discern the mistakes or omissions of either party more readily than the participants. With an eye single to the discovery of the truth I have watched this controversy, not as an idle spectator, but with diligence in collecting all the available data, and the exercise of my best judgment in reaching correct conclusions. The interest awakened in this subject while a resident of Brazil, has been kept up and intensified by the information reaching me constantly from that region through private and public channels, so I am in possession of the facts as to the progress of this work amongst the people of Rio de Janeiro, and the recognition of its efficacy by medical men and other intelligent residents of that city.

That a few members of the profession have been arrayed against yellow fever inoculation, without a practical examination of its merits, is in keeping with the history of all movements initiated by those who have anticipated the developments of current thought and action.

There is a peculiar tendency on the part of some minds to ignore what is accomplished without their instrumentality, and to oppose such measures as are contrary to past experience, while they refrain from testing their efficacy. We observe this very frequently in the ordinary course of otherwise intelligent members of the medical profession, who condemn certain means adopted by others for the attainment of practical results, while they have not tried them or availed themselves of an opportunity to observe their working in the hands of those having such experience of their utility. Such a position is unbecoming the the true scientist. If we compare the attitude of those who are arrayed against yellow fever inoculation with the course pursued by prominent medical men in England towards the proposition of Jenner, to use the vaccine matter for the prevention of variola, a striking illustration of the dictum that history repeats itself is presented at the present day. The lack of experience, prior to the experiments made in demonstration of the prophylactic virtues of vaccination, sufficed for many, not only to withhold their acquiescence in its practical application, but to abuse and vilify its author as a wild enthusiast and utopian experimenter. He outlived all this blind incredulity, and conferred the greatest benefaction upon mankind which the world has known in staying the ravages of this disease.

The antecedent improbability of utlizing the cow-pox against small-pox, was greater than that of substituting a modification of the virus of yellow fever for this disorder; and the theory is supported now by the practical results in the protection of the subjects from any serious development of it, if not entirely preventing the access of the yellow fever.

We have then no longer to trust to dogmas or hypotheses in regard to yellow fever inoculation, but are called upon to deal with the facts, and to determine whether the statistics presented corroborate the claims in favor of the immunity conferred by the use of attenuated virus of yellow fever. It matters not what view may be taken of the microbial origin of yellow fever by scientists, nor is it a matter of consequence what element is eliminated by the cultures employed in preparing the substance for the inoculation, so that a correct conclusion may be reached in regard to its prophylactic virtues.

If a process has been adopted, and can be repeated, with uniform results, in the separation from the tissues of the subject of yellow fever of a material, which, when introduced into the healthy structures of another individual, will induce a mitigated type of disease, and thereby prevent or modify materially the access of yellow fever in this subject, when exposed to it, and at the same time is shown to be innocuous, it is worthy of the consideration of all thinking men.

I do not consider it requisite to travel over the wide field, in which workers have been laboring in different regions, for the discovery of a means of preventing yellow fever; and though familiar with what has been undertaken by a number of investigators elsewhere, it will suffice on this occasion, to limit my paper to what has been done in Rio de Janerio during the past six years.

The experimental researches of Finley, Cremona, Gibier, Sternberg and others have not been accompanied by such practical results in their applications, as are presented in the records of the process of inoculation by Domingos Freire.

An extract from the "*Jornal de Commercio*," of Rio de Janerio for January 20th 1889, on the subject of vaccination against yellow fever is here given. In respect to such an important subject, note how Dr. Jose Lourenço expressed himself three years ago, in the article upon yellow fever in view of the enactment of the 3rd of February 1886:

"It is known that to Dr. Domingos Freire, Professor of the Faculty of Medicine, is due the introduction of vaccination by means of a fluid resulting from the attenuated culture, *cryptococcus xantogenicus*, as a measure to prevent the disease.

"Allowing that of the zymotic disorders, the yellow fever shows in the most marked degree the susceptibility of individuals recently arrived, those who are unacclimated and children, it is nevertheless to be observed that it has been employed indiscriminately.

"To this circumstance, which is not insignificant, that there appears in the statistics, a large number of persons having a presumable immunity, should be attributed the fact that the formed conviction of the efficacy of this preventive measure does not correspond to the great number of persons already vaccinated.

"From the efforts however of this physician of superior talent, with admirable energy and dedication, two important results have been attained.

"1st. There have been few persons attacked of the large number vaccinated for whom immunity could not be alleged, as deduced from the special objections presented up to the present time against his idea.

"2nd. The innocence of vaccination:

"If then vaccination against yellow fever is inoffensive, the proof should cause no kind of apprehension; if the facts supporting its efficacy are apparent, they should prepare the mind to accept this grand idea: and if the benefits accruing from this discovery to Brazil and to humanity are incalculably great, what is the attitude to assume towards Dr. Domingos Freire?

"I discuss only one course: to promote every means by which his proposition may be verified by experience.

"It would therefore be highly appropriate to invite recently arrived strangers to submit to vaccination as likewise to advise families to subject their children to the same process.

"This recourse having been employed in the capital of the Empire impresses one as of great advantage to be extended to the capitals of Bahia,* of Pernambuco, and of Peru, and also to the city of Santos, where the greater number of strangers collect.

"Susceptible persons, almost equal to those who are strangers, that in the season of yellow fever come from Minas and Saint Paulo, ought likewise to avail themselves of the preventive measure.

"I do not comprehend how there can be opposition to the glorious task of this energetic Brazilian physician, nor do I believe that anyone will oppose it.

"Furthermore, opposition may delay, but never can arrest the propagation of this idea.

"I do not think of the glory which such a discovery may bring for Brazil; glory is a vain thing; I think of the reality and of the extension of its benefits where yellow fever prevails; and finally upon the rehabilitation of my country before the entire world, where it is more known by the evils springing up from the negligence of men than by the surpassing grandeur with which it is endowed by nature."

An extract from another Rio paper may be given in illustration ot what is being actually accomplished with the process of inoculation, headed "*Vaccina da febre amarela*" and addressed to Dr. Domingos Freire by Dr. Alfredo Barcellos.

"After vaccinating all my family, not acclimated in Rio, including my six small children, with the inoculation of the attenuated virus of yellow fever, we have been in the midst of a true focus of the prevailing fever; and I have gone forth daily to see and treat various patients in our neighborhood who were attacked with the epidemic disease, which is being propagated with such intensity. We remain in the face of the epidemic tranquil and with serenity of spirit, thanks to your vaccine, in whose protection we so much confide. Thanks to the vaccinating fluid which you furnished, I have vaccinated several persons and some under very special conditions.

"Among them I note the following case: at the crossing of San Salvador, No. 6, a lady was taken seriously with yellow fever, who was treated by a distinguished colleague and by myself. So soon as it was discovered that the case was yellow fever of a serious form, I vaccinated four ladies and also the four children of the patient. All continued to nurse the patient, and her children did not leave the room, and while in the neighborhood other persons were attacked with yellow fever, the eight vaccinated, who have lived in the city but a short time, did not suffer at all.

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* Or San Salvador.

" In like manner, two other identical cases could be related, which I do not recount now lest they prove tedious.

" Continuing to have requests of many persons to vaccinate them, I have to beg of you the kindness to furnish me some more liquid of your attenuated culture to satisfy such requests.

" The relative immunity which your vaccine gives, is so great an advantage, that one, like myself, who has accompanied its results closely, cannot fail to urge our fellow citizens and above all the strangers not acclimated as being most liable to be attacked, to avail themselves of so powerful a prophylactic measure, by having themselves vaccinated."

While there are a few medical men in Rio de Janeiro who have opposed everything done by Domingos Freire, these extracts out of the numerous publications in the papers of Rio in my hands favoring the process of inoculation, indicate a large preponderance of testimony in support of its efficacy.

The following announcement in the newspaper entitled, *O'Paiz*, of January 19, 1889, speaks for the professional estimate of the means of meeting the epidemic in Rio de Janeiro.

" The Commission named by the Medical and Chiurgical Society of Rio de Janeiro to accompany the studies of Dr. Domingos Friere upon the primative inoculation of yellow fever, is invited to appear to-day at 3 o'clock P. M., at No. 68 of the street Rosario, to commence their labors.

Dr. H. Guides de Mello, Secretary."

In a number of the same Journal for January 20, 1889, the Inspector of Hygiene in a report of the most urgent measures of prevention of yellow fever, presents as most important—"A vaccinaçio Freiriana (the preventive inoculation with attenuated virus of yellow fever.")

In the *Diario de Noticias*, another newspaper published for many years in Rio de Janeiro, of the 20th of January, 1889, is a report of the proceedings of the Imperial Academy of Medicine in which several members insist upon the use of inoculation as the most efficacious preventive measure against the reigning epidemic of yellow fever. Among these are the distinguished physicians, Drs. J. M. Teixera and Caminhoa.

The "*Gazetta de Noticias*" of the 17th of January, 1889, contains among other endorsements of inoculation a statement made by Dr. Alfredo Barcellos, that he had been inoculated according to the process of Freire and that he relied upon its efficacy as a prophylactic against yellow fever.

In a number of the *Tribuna Liberal*, for January 22, 1889, is an extended report of a meeting of the representatives of eleven newspapers, with other prominent residents of Rio de Janeiro and high officials of the Imperial Government. The most emphatic support of the efficacy of inoculation was given by a number of speakers. Dr. Ferreira de Araujo considered the best preventive to be the vaccination by the system of Freire, and said that whatever opinions were held to the contrary, no one undertook to declare that the vaccination ever did any harm. He therefore urged that it be practiced on a larger scale.

One of the Editors, Senor Jose Patrocinio, held that inoculation being an efficacious preventive of yellow fever ought to be made obligatory in like manner as vaccination against small pox.

Another Editor, Senor Quintino Bocayuva, who is well and favorably known by his residence in New York at the time emigration was setting from the United States to Brazil, presented a most favorable estimate of the preventive inoculation of Dr. Freire. He advocated the appointment of a Commission to preserve the statistics of inoculation, as the only practical mode of verifying the efficacy of this prophylactic measure.

The following is a literal translation of a letter just received from Brazil.

RIO, Feb. 22, 1889.

DEAR FRIEND DR. GASTON:

I have to inform you that since November there has been prevailing here one of the most intense and extensive epidemics which we have had. More than fifteen hundred persons have been victims of it.

"My vaccinations could not have found a better occasion for again revealing their efficacy. A Commission named by the Medical and Chiurgical Society and another by the Imperial Academy of Medicine accompanied daily my applications. The results have been entirely satisfactory up to this time. Along with this I send you a fragment of an article which I have published in the *Journal of Commerce* of the 18th of this month and there you will see a *resumé* of the statistics of this year. I send you likewise other journals in which you will note the new phase which my investigations have taken, to awaken an interest in all the press. The municipal council of this city, that of Nitheroy, and of Vasouras, have called for the benefits of vaccinantion.

Persons of all classes have been inoculated, physicians, lawyers, merchants, deputies, senators and even diplomatic officials. I expect that the results of this year, united with those of the three preceding years may at once carry conviction to the minds of all. I will continue to give you information of everything, for I cannot dispense with the valuable support of a physician so dedicated to this humane undertaking. The autopsies made this year in the presence of various medical men fully confirm the existence of the micrococus in the blood and in the viscera, principally the kidneys and liver.

Awaiting your letter, I am at your orders,

Your obliged friend and colleague,

Dr. Domingos Freire."

The translation of the extract above referred to is here given:

" The results are encouraging up to the present. Estimating only the existing epidemic, we have up to date 2,100 inoculated, of which 1,317 are persons recently arrived from abroad or from the provinces, residing here some days or months and between one and five years. The mortality among these 1,317 inoculated so susceptible is only eight-tenths of one per cent, and of all inoculations this season, it is five-tenths of one per cent. The number of deaths among those not inoculated from the commencement of the epidemic until now is 736, not counting those of Jurujuba, that would raise the number above a thousand. Being granted that the majority of these 736 consists of individuals highly susceptible and comparing them with the 1,317 equally susceptible that we inoculated, it follows that if these 736 had been inoculated, only six among them would have died, and at least 730 lives would have been saved.

" The sum total of the inoculated to this time is 9,083. The proportion of general mortality for this number is two-tenths of one per cent.

Allowing that two thousand have left the epidemic focus, which is a large concession, the percentage will be three-tenths of one per cent.

Supposing that all the population of Rio de Janeiro had been submitted to my inoculation, we would not certainly have been subjected to the horrible epidemic of this year, the most fatal since that of 1850.

Dr. Domingos Freire."

Rio, Feb. 18, 1889.

This showing as to the status of yellow fever inoculation among the Brazilians, who are very astute observers, will enable the thinking people amongst us to understand that the facts have not been examined as their importance demands. The possibility, not to say the probability, of being able to control such a scourge as yellow fever by a simple process of inoculation with attenuated virus, calls for further investigation, and warrants our Government in providing a sufficient number of competent men and ample means for solving all the doubts which exist in regard to this matter.

This measure of inoculation with the attenuated virus of yellow fever may not rest upon a strictly scientific basis, but if there be a reasonable ground to believe that it has been practiced with the result of preventing the disease or of modifying it to such an extent as to deprive it of all its grave features, it is worthy of the most thorough examination possible. The question as to the discovery of the germ which causes the disease is not essential to the determination of the practical result of inoculation with any agent, whether microbial or not, which arrests the development of a serious form of yellow fever. That Dr. Sternberg is eminently qualified to conduct a scientific investigation in the field of bacteriology is not doubted, but there are phases of this examination for which others may be better fitted, and hence the names of Drs. J. L. Guiteras and H. M. Lane had been suggested as additional members of this Commission in the proposed communication to the President of the United States under the resolutions laid before the American Medical Association, which were passed, but rescinded. Whether the outcome of the mission of Dr. Sternberg with the addition of other gentlemen to the Commission would have verified the trustworthiness of the statistics of seven thousand inoculations as a protection against yellow fever in the country, the examination would most assuredly have met more satisfactorily the requirements of such an investigation in the city of Rio de Janeiro. It is not claimed that all the data offered by the records of the cases inoculated by Dr. Friere are to be accredited, but it is insisted that one individual slightly acquainted with the field of observation and unable to communicate with the population in their own language, is not so well suited to get at the facts, as two other persons with more qualifications in these requisites for discriminating between the true and the false statistics.

The awkward attitude of Dr. Sternberg in going to Brazil when yellow fever did not prevail there, cannot be excused by lack of knowledge as to climate in the countries south of the Equator, nor can his stay for a month in Rio de Janeiro, during the absence of Dr. Friere, under the guidance of Dr. Goes an avowed antagonist of his, be considered as an indication of an impartial spirit of inquiry in conducting this investigation.

With these surroundings it is not to be wondered at, that his report should be disparaging to Freire's pretensions, and that even seven thousand inoculations with an insignificant number of deaths, compared with those among the uninoculated in the same localities, should not be accepted as proof of its protective influence.

The people of this country should know the facts in regard to the immunity claimed for yellow fever inoculation in Rio de Janeiro by Dr. Domingos Freire and the representative members of the Medical profession there who indorse him.

I have here presented translations from a number of the various newspapers of that city, issued during the month of January last, while yellow fever was prevailing in an epidemic form, and the opinions of editors and medical men of the highest standing sustain the claims in favor of the inoculations with microbial virus, as used by Freire among the population within the past six years and up to the present time.

If it is allowable for the incredulous man of science to set up his opinion against the observation of those equally entitled to recognition in their respective spheres, who declare that the facts warrant the conclusion of an efficacious result by inoculation, in protecting the subjects from yellow fever, their testimony is of little avail in this case.

Let all theory be put aside, and the question is reduced to the simple matter of testimony of one man against hundreds, and even thousands, who are more favorably situated for reaching a knowledge of the facts.

If it were a question of veracity between Sternberg and Friere as to the existence of a special yellow fever microbe, it might be relegated to the domain of science; but it resolves itself now into a correct appreciation of facts by competent and honest observers of the data presented.

There can be no motive on the part of the Brazilian authorities to retain Freire in a very responsible position as their agent in carrying out these inoculations, if they were not efficacious; nor can we explain the action of the people in availing themselves of this process, except upon the recognition of the reality of the protection that is claimed for it.

I hear some sagacious scientist whisper that Brazilians are a stupid set of blockheads, who are only hoodwinked by a few designing men to believe anything and everything which may be urged upon their credulity. But I appeal to such men as the Hon. Henry W. Hilliard, and the Hon. T. J. Jarvis, who have lived among the people of that country, to substantiate my assertion that any such allegation is entirely without foundation.

The intelligent population of these United States stands just now more in danger of being led by a ring in the nose with a cord in the hands of one man, without questioning his capacity to direct them aright. Let me caution those whose interests are involved, that the exercise of common sense in regard to this matter may avert the consequences of a blind confidence in the dictum of Dr. George M. Sternberg that no discovery has been made by Dr. Domingos Freire of the yellow fever germ, and that no reliance is to be placed upon the record of his inoculations in Rio de Janeiro. Unless it can be proven that Freire is a knave or a fool, we must accept his statistics of cases inoculated, with the name and age of the individual, the date of its introduction, the number of the street, and the result in prevention or mitigation of yellow fever prevailing in the same localities.

That there are persons living in the city of Rio de Janeiro who are incredulous as to Freire's success is only in keeping with the opposition met by that great and good man Jenner at home in his first demonstrations of the influence of the cow-pox, in preventing or mitigating the small-pox. A man who is blinded by prejudice, is like one who places a bandage over his eyes, and declares that because he cannot see objects around him, they do not exist.

All that is requisite amongst the people of this country, is to set aside all bias from the pretentious dictation of a few otherwise distinguished scientists in regard to the grounds of proceeding with this investigation, and deal squarely with the facts. We must decide the simple question as to the *reality* of what is claimed for inoculation as a prophylactic measure, without having it mixed up with the bacterial origin of the disease. The men appointed on any commission in the future should be selected so as to be free from prejudice and should be allowed the fullest scope in their investigations, so as to sift the chaff from the grain and reach correct conclusions.

NOTE.—The use of the word *vaccination* for *inoculation* in the extracts is a literal translation of the text, which the reader will understand as the introduction of the attenuated culture of the yellow fever virus.

ARTICLE IV.

THE KING'S COUNTY MEDICAL ASSOCIATION'S DISCUSSION OF DIPHTHERIA.

A Review by AVERY SEGUR, M.D.

This discussion began with the October meeting of the Association, and has occupied in all six successive meetings. There have been nineteen written contributions read, besides the extemporaneous discussions, in which a considerable number of the members have taken part. This evening's work is the end of what is proposed for the present, although, as will be stated later, there are very important practical matters that yet need to be considered by the Association.

The discussion has been almost entirely clinical, full of interest to us as practitioners, and the papers and reports as printed have a permanent value. The Association has been fortunate in having as members and contributors several physicians whose experience in anginas began before the appearance of diphtheria in 1859, and who have described to us the forms of sore throat seen when diagnosis was not complicated by this new and multiform disease. Also we have members who had extensive experience of diphtheria in the country before meeting it in Brooklyn, and their descriptions of the conditions of its ravages in the sparse population of healthful rural communities have prevented any partial or exclusive views of its ways and means of propagation. Hill-side houses, supplied with water from distant springs, all waste and excrementitous matters frozen, the season being winter, and all the surroundings fast bound in ice and snow, furnished no barrier to the most fatal invasions of the infection.

We have also been fortunate in our President's contribution to the etiology of the disease, to which we listened at the February meeting. I think you will all agree with me that it was the greatest pleasure to be taken away from the routine of the bedside, and from the more or less discouraging combat with the disease, it was delightful to be lifted up to the higher regions of the evolution of this disease, and to philosophical views of the way in which there comes to be such a contagion in the world; and growing out of those views were weighty and wise suggestions as to the measures that must be taken if we are ever to eradicate not only diphtheria, but many another scourge which, as our President told us, we leave to prey upon the children of the race, while what we have done in the way of prevention of disease and prolonging of life seems to have been chiefly for the benefit of the adult.

But passing immediately to a review of the points of the discussion, it was suggested in my opening paper that it is claimed that there are a great many cases of catarrhal sore throat and follicular tonsilitis due to the contagion of diphtheria, and communicable of diphtheria. I thought our discussion on this subject should be very thorough, and I proceeded to ask four diagnostic questions, all of which were intended to group our thoughts around this important question of diagnosis. Important with reference to prevention, because it is obvious that if there is a great deal of unrecognized diphtheria, and it is a communicable disease, then we can hope for little success in prevention until we shall have advanced our diagnosis.

The brevity imposed upon our contributors has doubtless led to a statment of opinions with little argument on points of diagnosis. I make the following summary:

1. But few of our members make a diagnosis of diphtheria in the absence of false membrane.

It was pointed out with admirable distinctness that the follicles of the tonsils may be the seat of a catarrhal inflammation, or of diphtheria and in the latter case, diagnosis must be delayed until the process had gone on to the formation of membrane outside the follicle. I quote the paper on this point as it is a valuable contribution to a difficult and important subject. The writer says: "I must class myself with those who find it impossible to make a diagnosis of catarrhal diphtheria. I should be unwilling also to acknowledge follicular tonsilitis to be a diphtheritic affection in nearly all cases. I never have thought it necessary to isolate a case of follicular tonsilitis nor have I ever seen anything more than follicular tonsilitis manifest itself in other members of the family where one child was already sick with it. If I should meet a case of diphtheria well pronounced as a termination of what I have diagnosticated follicular tonsilitis, I should feel disposed to regard the case diphtheria developing on a follicular tonsilitis, as it may develop in any throat that is out of its normal condition.

At the same time I am sure there is a diphtheritic follicular tonsilitis beginning as such. A quarantine of a day will almost always clear up the diagnosis. I think the terms follicular and diphtheritic unfortunate in implying that the presence of the one excludes the other, the former simply relating to an anatomical location, the latter to a pathological process."

2. The prevalence in Brooklyn of mild cases of diphtheria with few throat symptoms and no constitutional symptoms of severity is established by the testimony of our contributors.

That the physician may not see such cases at all, or that when called, the slight and transient membrane may have disappeared from the throat is evident.

How large a proportion mild cases bear to severe cases it is impossible to determine, and this uncertainty enters into any attempt to determine the fatality of diphtheria, or the comparative value of methods of treatment.

It is evident that mild cases of diphtheria are probably the common (because unguarded) sources of communication of the infection.

While a majority of the contributors were of opinion that there is no diphtheria without membrane, or no diagnosis perhaps I should say, yet it is true that we had very strongly presented to us, as you will remember, at the January meeting, in a paper to which the entire evening was devoted, we had very strongly presented an entirely different view of the disease, we had presented the constitutional view of the disease; that diphtheria is primarily an infection, a general infection of the system. One or two extracts will refresh your memory of the points stated in the paper.

" Diphtheria is to be regarded as a constitutional disease manifesting itself upon any mucous membrane, and frequently exhibiting no exudation-membrane on the fauces, while attacking the lungs or other organs; *that the diagnosis does not depend upon the presence of a false membrane in the throat.*"

The opinion of Dr. H. H. Childs was quoted, " that there was a succession of symptoms which revealed the diphtheritic poisoning as surely as the existence of false membrane;" and of Dr. R. C. Stiles, " that the presence or absence of false membrane on the throat or air-passages could not be made a test of the presence or absence of the diphtheritic poison in the blood." The professional enthusiasm and scientific attainments of Dr. Stiles are well remembered in Brooklyn, and we are glad to have his testimony as a contribution of great value to our discussion.

And one of our members stated that he had seen cases of diphtheria where the systemic or blood poisoning, was so profound that death occured before there had been time for local exudation.

We may conclude, that among us, there is considerable difference in the readiness to make or accept the diagnosis of diphtheria in the absence of a characteristic membrane.

3. The Association does not question the prevailing view that bacteria are in some way the cause of diphtheria, that the disease is due to a special micro-organism. Some of us this view seems to guide in choice of

remedies, while others explain the treatment they long ago adopted, and still have most confidence in, in accordance with bacillicide requirements. One able paper, however, found all needed indications for treatment in the constitutional remedies for an infectious fever, and the local measures required by inflammation or gangrene.

4. Passing on to questions of treatment, I will recall first the valuable paper on tracheotomy, and quote one or two concise sentences which sum up the views of the writer. "The laryngeal condition that calls for the consideration of the propriety of operative interference is one characterized by dyspnœa so severe that the respiratory function or blood aeration is compromised to such a degree that with each inspiration the soft parts in the epigastic region are depressed instead of being elevated as in normal respiration. Of course with this symtpom the other well-known symptoms of laryngeal obstruction are present. To make the case one proper for operation this dyspnœa must be continuous. When this stage is reached, but not before, and usually not much after, relief by surgical aid is indicated." Again, "a word may be spoken in regard to contra-indications. I take it that the only absolute contra-indication is the existence of obstructing membrane below the point that the tube can reach." "So, in proper cases, I am forced to the position by large statistics and by the natural history of the disease that tracheotomy is a humane and frequently curative measure in the treatment of diphtheritic laryngitis."

One of our contributors presented intubation as a competing operation with tracheotomy. He says, "I have done intubation of the larynx fifty-four times, the youngest patient nine months, the oldest nine years. Have had six recoveries, seven, if I count one that died of paralysis several days after removal of the tube. Many of these were operated upon when moribund." "Of patients under five years of age a much larger per cent. recover after intubation than after tracheotomy.

This contributor also gives his experience with calomel fumigations in laryngeal stenosis, the method suggested by Dr. Corbin of this city, who has reported thirty cases, twenty-five of which terminated in recovery, and says, "if I am called to attend a case of diphtheritic laryngitis I will treat it as follows: first by calomel sublimations, if the dyspnœa increases and mechanical relief becomes imperative, I will intubate, and by so doing will feel that I am giving my patient the best chance to get well."

5. There was a period in the earlier treatment of diphtheria when chlorate of potash was always and largely used. According to the

testimony of our members it is now little used among us. The early confidence in the tincture of iron on the contrary is maintained. It appears to be in general use, and some ascribe to it a very direct and positive value, first as a local astringent, and second as the most valuable of all the iron preparations as a blood tonic, sustaining and supporting the blood against the changes which this disease is sure to produce.

6. The next remedy is corrosive sublimate. There seems to be a general consent to the use of corrosive sublimate, some few with misgivings, and most with a good deal of confidence. The favorite way of its use seems to be either in the form of a gargle, a hot water gargle in the strength of one to four thousand, or with spray, in the strength of one to five hundred, making a sufficient number of squeezes we are instructed, to give in the throat of the patient one-fifteenth of a grain of corrosive sublimate, which should be administered once in two hours. While the gargle of hot water in the strength of one to four thousand, where it was used freely, was said in one case to have produced mild salivation, yet no one, although the corrosive sublimate spray is in general use, had seen any poisonous effect, and we have the testimony of our President that nine grains daily has been administered, by the stomach, to an infant without a poisonous effect; we may feel bold therefore to use the corrosive sublimate in the form of spray or gargle in the quantity that has been suggested; and there is no reason why its exact value should be determined by general use.

7. To the use of alcohol there is consent. No one treats a case of diphtheria without the help of alcohol, but there is a very great contrast in the point of view taken by the members of the Association in their use of that remedy. You will remember that the experience of the late Dr. Chapman was introduced by one of our members in his paper, and you will remember, also, that another member stated his own personal experience of the Chapman alcohol treatment, and of its antidotal power. It seems desirable that in formulating one's convictions in regard to the nature and treatment of diphtheria no one should lose sight of claims and statements of Dr. Chapman, and they are in evidence before us, with the corroborating statments of some of our members, while others have not seen that there is any antidotal power in alcohol, and believe that it is simply to be used as in any other disease for its stimulating effect. The antidotal claim for alcohol is, that given at the beginning of the disease and in the large quantities that common consent shows can be given safely in this disease, it is specifically

antidotal, and is curative in diphtheria as absolutely as is quinine in intermittent fever.

Dr. Chapman states *(Antagonism of Alcohol and Diphtheria.* Brooklyn, 1878, p.45): "Thus it appears that in a period of three and a-half years, eighty-five cases of diphtheria have been treated successively, without a failure," and page 56 "since then I have treated forty cases of diphtheria,"—"if to these be added the eighty-five previously given, thus extending the period of observation to more than four years, the grand result of only one death in a hundred and twenty-five cases is presented."

Dr. Chapman adds this comment "surely the action of alcohol must be direct, positive, specific, when by its use in a series of epidemics, attended with great fatality under accepted modes of treatment such unheard of success is attainable."

These statistics of Dr. Chapman are generally credited by the profession in Brooklyn. His book gives evidence of exact observation and of physiological and therapeutical insight. I select the following as an admirable statement of the power and use of cinchona and quinine, "In malignant cases of diphtheria it is advisable to invoke the aid of a co-operating remedy, of one like quinine, that particularly excites the great ganglionic nerve centres; by which means a maximum of power is attained and stimulation carried to the highest possible degree. The various preparations of the cinchona bark fulfill this indication; and, when pushed to the extent of causing *tinnitus aurium*, are the most potent nerve stimulants. Their efficacy is shown in all diseases when the inervation is weakened, disordered or perverted, in fevers from malaria, in fevers from a blood poison, and a variety of morbid conditions attended with an exhausted or a defective nervous energy. Both it and the alcoholic stimulant whether used singly or jointly should be given with regularity and in sufficient doses to obtain their full effects."

From the illustrative cases given by Dr. Chapman it appears he began the alcohol treatment with one half teaspoonful for infants and one teaspoonful for children, repeated after two hours and rapidly increased these doses in frequency, to every hour, then every half-hour if the symptoms were not checked, and doubling the quantity of each dose in some cases. He points out the failure of these doses to produce any evidences of stimulation. He insists that alcohol treatment must begin with the disease; "every moment is valuable, and the hour of active interference has passed when prostration and sinking announce the constitutional power, tottering and subdued; for it is well known that the power of medicine is relative not positive; is indirect not inherent; and merely acts by calling out the reserve forces of the system."

He maintains that alcohol does not act as a stimulant in diphtheria; hence that those who resort to it, when a case is in that stage demanding stimulation, find alcohol of little avail. It would appear, nevertheless, that most of our physicians are still employing alcohol as a stimulant or support (that is in doses and quantities suggested by these uses of the agent in general disease), rather than in the active antagonistic sense of Dr. Chapman. A competent discussion of his views and methods would be most instructive.

Permit me only the briefest suggestions. In the first place, in snake-bite or when certain poisons have been swallowed, a pint of whiskey or brandy, if you can get the patient to swallow it in the course of an hour, is imperatively demanded. Then again, in depressing fevers, pneumonia, etc., the best authorities advise from a pint to a quart of brandy in the course of twenty-four hours, as the condition of the patient demands. There is nothing, then, unheard of, in the claims of Dr. Chapman and of those who have followed him, in the quantity of whiskey that should be administered. It is not at all a question of poisoning the patient. I have been interested in this connection, and have consulted a work on poisons to know what is a poisonous dose of alcohol in ordinary health, and I think you will be interested to know where we stand in the matter.

Alcohol. Fatal Dose. "It is difficult to say what would be likely to prove a lethal dose of alcohol, for a great deal depends, without doubt, on the dilution of the spirit, since the mere local action of strong alcohol on the mucous membranes of the stomach, etc., is severe (one may almost say corrosive), and would aid the remote effects. In Maschka's case, a boy of nine and a girl of five died from about two and a-half ounces of spirit of 67 per cent. strength, or 1.7 oz. absolute alcohol.

In a case related by Taylor, a child seven years old died from some quantity of brandy, probably about 4 oz., which will be equal to at least 2 oz. absolute alcohol. From other cases in which the quantity of absolute alcohol can be, with some approximation to the truth, valued, it is evident that for any child below 10 or 12, quantities of from 1 to 2 oz. absolute alcohol contained in brandy, gin, etc., would be a highly dangerous and probably fatal dose—while the toxic dose for adults is somewhere between 2.5 and 5 oz." Blyth: Poisons, Their Effects and Detection, p. 117. Vol. I.

Now one of the members in his paper said that he woke up at three o'clock in the morning, feeling ill and finding membrane in his throat, he took a quart bottle of brandy, and drank one-half of it. By eight o'clock on the following morning he had finished the bottle. And afterwards I asked him about it, and he told there was not the slightest intoxicating effect from this dose of brandy. He also states that to a child six months old he gave six ounces of brandy every twenty-four hours for a number of days, and another member in his paper stated he had also given six ounces of brandy every twenty-four hours to an infant for a number of days. So you see we are entirely outside of any question of toxic effect. It is not that at all.

And one point struck me very forcibly in connection with the doctor's experience, who took his pint of brandy when he woke up: He took this pint of brandy; he took a poisonous dose; there was no poisonous effect. Now the disease was developed locally in the throat. But was there not already a general infection? How, otherwise, could there have been this tolerance of the dose of brandy? It would seem, then, that where brandy can be given at the very beginning in diphtheria, in doses that would in health be toxic, that the tolerance of the dose goes to show that the disease is from the beginning in such cases a general infection, and not a local disease. Is there any mistake about that reasoning or inference? It would seem, then, that in some cases, we have the proof of the therapeutics of the disease, that it is a systemic infection from the very beginning.

7. Hydrogen Peroxide. At the February meeting the President directed attention to this agent as "a most active disinfectant and therapeutic agent," and stated that "it (the contagious virus of diphtheria) may be and will be destroyed by this agent upon a sufficient and a sufficiently repeated contact."

These suggestions have been applied in several cases reported in this discussion.

It is found that a two or three volume solution sprayed in a child's throat is absolutely free from discomfort; "nostril, pharynx and mouth may be flooded," "and any solution which finds its way into larynx or stomach is beneficial rather than harmful." It is not only cleansing and bacillicide, but the false membrane is seen to break up, disintergrate and wash away with its use. The cases reported were all favorable examples of the effects of hydrogen peroxide and justify its further use.

Its efficiency in cleansing the affected surfaces of membrane suggests that it might be used in alternation with the corrosive chloride.*

8. In regard to all these local remedies, agents possessed of antiseptic properties directed and applied to affected areas in the throat and nose, there is a remarkable agreement, I find in the papers contributed to this discussion. All observation has resulted in the affirmation that with and since antiseptic local treatment, better results have been obtained. This agreement (entire freedom from theoretical influences may be plainly seen in the form and manner of statement) conveys to my mind a strong impression that antiseptic local treatment of diphtheria has in it a decisive curative potency which has only to be developed in order that diphtheria may be as curable a disease as pneumonia.

The contagious virus (micro-organism) of pneumonia invades a vital part with its enormous epithelial surfaces and lymphatic and vascular ramifications, but with so little virulence that a self-limited course and recovery is the rule and expectation of the infection; the virus (micro-organism) of diphtheria invades the first air passages with limited epithelial surface and vascular and lymphatic structures, but with a virulence and manifold infective power that makes this disease among the most fatal as it is the most prevalent.

But this contagion is subject to conditions.

Thus one of its conditions is that it can rarely invade the adult. Another is that in very many children it meets with such vital resistance that the disease runs a mild course as we say.

Now we may hope to subject its local manifestations in the nose, mouth and throat to such agencies as will reduce the virulence in the part to as harmless a degree as that of pneumonia in the lung.

The mucous membrane affected is from the very first the site not only of an infective inflammation in its vessels and tissues, hastening on to exudation and gangrene, but the life of the epithelium is directly attacked by the infection and immediate cell necrosis is a component together with inflammatory products, of the more or less abundant false membrane. These are processes that can be reached and modified by local treatment.

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*Dr. Squibb states that hydrogen peroxide is now made in large quantities and for a moderate price, but "as in passing through several hands after leaving the maker, a little mismanagement may spoil the solution. Some easily explicable tests of quality and strength are needed." "The standard test solution is made by dissolving 1,852 grams of potassium permanganate in distilled water and making up the measure to 500 cubic centimetres."

"The test is made by adding to about 50 c. c. of water acidulated with five drops of sulphuric acid, a cubic centimetre of the solution of peroxide of hydrogen to be tested. Into this, with constant stirring, is dropped, from a graduated burette or pipette, the permanganate solution until the color of the permanganate ceases to be discharged. Each c. c. and fraction of a c. c. required to reach this point indicates one volume and fraction of a volume of active oxygen that is available in the solution tested."

The surgeon inflicts a wound, and if his methodical care is successful in keeping it aseptic, has neither local inflammation nor fever nor other symptoms of constitutional infection.

If he finds inflammation or septicæmia he knows his patient's wound is the site of infective processes. He opens it, cleanses it, disinfects it, makes it aseptic, and inflammation and fever and septicæmia all succumb. A great and most successful surgeon said he knew no treatment for septicæmia. Because it was incurable and so often frustrated the great (and small) operations of surgery, the art of aseptic surgery was sought and found with its life-saving results.

Physicians must treat sore throats locally with the full intention of aseptic surgery, and every application must be made with a hand capable of performing what the mind intends.

9. It remains to point out that the series of questions relating to the prevention of diphtheria in Brooklyn have received very little attention in this discussion.

Physicians in their practice enforce separation of the sick and their attendants from the well, the destruction of fornites, the due employment of disinfectants and the final fumigations. Our President has shown that sulphur fumigation as usually performed is ineffective, and has taught us that to be useful it must be accompanied with abundant moisture. But, the prevention of diphtheria, apart from the duties that devolve upon the family physician, has not been considered at length. The influence of sewers upon diphtheria, what might be done in the way of public prevention to limit the prevalence of the disease in Brooklyn, etc., these are questions that have not been considered, and as I wish to introduce a resolution on that subject, I will, with the permission of the President, read it:—

Resolved, That a committee of three be apppointed at the convenience of the President, to take into consideration the prevention of diphtheria in Brooklyn, and especially to correspond with the sanitary authorities and others interested, with a view to collecting information of the progress of prevention of diphtheria, scarlet fever, etc., elsewhere. The committee to report at the December meeting. Then the Association might think it profitable to devote one or more meetings to the discussion of the subject, especially if it shall be found that our city has not the protection which other communities have found in the wise and efficient measures of a well-informed and sustained Public Health Administration.

There is one topic under the head of prevention which also seems to call for action by the Association. There has been a very strong expression of opinion on the part of our most conservative members that the detention of well children, in a house where there are others sick with diphtheria, but where there is perfect quarantine, etc., and the prevention of their going to the public schools, is unnecessary, inconvenient and attended with great loss.

10. From the review of our discussion the following may be formulated:

RULES.

1. Immediate isolation of every case of sore throat: the restrictions not to be removed until it is certain there is no diphtheria in the case.
2. Immediate and thorough and frequently repeated applications of solutions of corrosive sublimate, hydrogen peroxide, etc., etc., to all affected surfaces.
3. Immediate administration of brandy at short and regular intervals; the physician by frequent visits and by increasing doses to determine as early in the progress of every case as possible the question: has this case the diphtheria toleration of alcohol? Infants may require six ounces and children a pint or more of brandy daily.
4. In the progress of the case the tincture of iron is of positive value as a local astringent, and in the blood and tissues checking the changes due to the infection.
5. Immediate disinfection and removal of contagion bearers of every possible description, and at the conclusion of the case the renovation of the room by fumigation, by repeated washing, by many days exposure to air, by removal of paper on walls, by disinfection of beds, etc.

In conclusion: while we have been discussing diphtheria, namely, in the six months from October first, 594* have died from it in Brooklyn. In the corresponding six months last year 690 died.

The scourge is not lessened, diphtheria remains; many times strangely mild, often strangely malignant, with its tendency to death by croup, by bronchitis, by pneumonia, by heart failure, by paralysis, by blood poisoning, by exhaustion—the infection sometimes confined to a part and harmless sometimes extending and pervading the body—a body of death.

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*Add 227 deaths reported as croup in same period and the total for six months is 721.

But medical science and art are everywhere at work at this mystery and are penetrating it.

Individual physicians see that they are more successful. They dread it less. They see that their treatment is gaining control more or less; more, and generally complete control, if begun with the earliest local manifestation. Diphtheritic processes in the throat very often give no serious discomfort until after many days and considerable progress, but it is a fortunate thing that the public alarm is so great that the least sore throat is sure to attract attention—at least with intelligent people. And while at the bedside they meet the difficulties and the limitations inherent in the methods of pure and simple observation of nature, they are to be aided and their work completed and perfected by the experimental study of disease in the laboratory.

Investigation by bacteriological methods is everywhere going on. The publications of the numerous investigators are most instructive, interesting and suggestive to the practitioner. When the *contagium* is discovered, under what conditions it exists out of the body, and how it multiplies, increases and spreads in the earth and in human bodies, (and all this may be very soon), who can doubt we shall be able to turn all this knowledge to good account.

Prevention not less than cure is the aim of medicine, and both wait for the light that is even now breaking. Every physician should read the book "Louis Pasteur, His Life and Labors;" pursuing this fascinating story of discoveries in the silk-worm disease, in fowl cholera, in splenic fever, etc., etc., one comes to share Pasteur's conviction that "the etiology of contagious diseases is on the eve of having unexpected light shed upon it."*

PROCEEDINGS OF SOCIETIES.

KINGS COUNTY MEDICAL ASSOCIATION.

Meeting of April, 2d, 1889.

DISCUSSION ON DIPHTHERIA CONTINUED.

The President DR. E. R. SQUIBB in the chair.

The CHAIRMAN stated that the subject for the evening was diphtheria, and the verbal discussion would be followed by summing up by

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*A clear exposition of the acquired facts about pathogenic micro-organisms and an admirably reasoned exposition of ferments, animal poisons, septic and specific morbid poisons, etc., as causes of disease may be found in a Manual of General Pathology, by Joseph Frank Payne of St. Thomas' Hospital, etc. This book is up to date.

Dr. Segur. The Association would be glad to hear from any gentleman who had any matter to relate, or any discussion upon the papers that had been presented. He would be pleased to hear the opinions of those present in regard to the use of alcohol in cases of diphtheria.

DR. OSTRANDER.—Dr. Fessendens' case has brought to my mind a little experience that has occurred to me since the last meeting of the Society, which may have some bearing on the subject. I was called to see a child in a family up in Quincy street. The child was about three years old. The mother told me that on the previous Saturday —this was on Monday—the child had wakened up in the night with what she supposed was ordinary croup, and that she had vomited her freely. That case was a case of membranous croup, and died in twenty-four hours after I first saw it. The other little one, a year and four or five months younger, had been staying at the house of its grandfather, about a mile distant. When the other child was dying it was brought home, and the mother said to me: "This child has a little cough, but it is not croupy at all. I wish you would look at it." I went and examined it, and found a little bronchitis. They had all just recovered from whooping-cough. I examined the throat carefully and could see nothing in the throat. The child was not even feverish, and was playing around. The bowels were regular. That child went on from bad to worse, and before morning had developed membranous croup. It was never in the room with the sick child, but was kept down stairs. I examined it very carefully, and took some of the urine, but found no albumen. The child developed a membranous croup, which very soon took it off. At the house of the grandfather, where the latter child had been staying for two or three days, a little girl developed a perfect case of diphtheria, as perfect and typical a case as I have ever seen. It was a pure case of diphtheria, so pure that the moment you entered the room you knew what it was. Now in those two cases I saw no symptoms of diphtheria, got no albumen, no enlarged glands. Were they both cases of diphtheria?

DR. SULLIVAN.—In that case I should say they were diphtheria. It opens up an old and much disputed subject—the difference between diphtheritic croup and membranous croup; I formerly thought they were two distinct diseases; I now believe they are identical. I have no hesitation in saying that both were cases of diphtheritic croup.

DR. OSTRANDER.—But the first case had not been out of the house. There was no diphtheria in the neighborhood; there was none in that house. The second case had been away at its grandfather's, about a mile distant, for a week, and then came home and was taken sick at home No one else in the house have since had any sickness, not even the nurses.

DR. SULLIVAN.—Only a few weeks ago I had a case which was very interesting from the fact that the patient recovered rapidly under treatment by calomel fumigation. I was called to see a girl about five years of age suffering from diphtheritic croup. The pharynx and tonsils were covered with a diphtheritic membrane. The disease had existed for about four days, but the croup developed during the preceding night. The laryngeal stenosis was sufficient to justify tracheotomy.

I had her placed under a tent and fumigated with thirty grains of calomel every three hours for the first day and every four to six hours on the second and third days. The difficult breathing was relieved after the first fumigation, and the improvement was continuous thereafter. On the second and third days of the treatment portions of the membrane were coughed out, and on the fourth day the croup symptoms disappeared entirely. The only other treatment she received consisted in giving her about two grains of salicylate of ammonia with five minims of fluid ext. of cubebs, dissolved in glycerine and water, every three hours, and whiskey in moderation.

Dr. Benton.—I have but just come in to the meeting. And if I have got the drift of the discussion, I will say that, in my experience the diagnosis between diphtheria and follicular amygdalitis does not occur to me as very difficult, and more especially after the second visit or so. I have never been willing to admit that there was any indentity or even similarity between the two diseases.

I cannot recall a case that I thought to be tonsilitis or ulcerated sore throat, which seemed to be transmitted to other members of the family. While it has often occurred in my practice that several children at the same time, in the same family, had follicular tonsilitis, I always considered it to be simply a co-incidence due to the atmospheric changes. The symptoms of tonsilitis are rarely the same, if ever, as diphtheria at any stage. Tonsilitis is always ushered in by a pronounced chill and the patient made suddenly ill with rapid pulse and high temperature, and also great pain in deglutition. Tonsilitis runs a very brief course, probably three days will be about the length of time they need the care of the physician unless supuration occur or laryngeal inflammation supervene. As I said before tonsilitis runs a brief course with a rapid restoration to former tone and vigor. But does this ever occur in the simplest cases of diphtheria? If so, I have never seen them, even in the mildest cases, the long wearisome convalesence, with all its attendant symptoms, was in marked contradistinction to follicular amygdaliotis.

In many cases I have found albumen in the urine and I think it is usually present in all severe cases. The theory that membranous croup and diphtheritic laryngitis are one and the same disease, I have always questioned, reasoning from a clinical standpoint.

I have never seen membranous croup infectious, neither have I ever seen diphtheria contracted from croup, where evidence of the characteristic exudate of diphtheria had not been observed in the croup.

The treatment of diphtheria differs very little, in the main at present time, from the treatment twenty years ago. In 1870 I gave tr. iron, chlorate potassa, quinine and stimulants, using as a gargle a combination of tr. iron, carbolic acid, chlorate potassa and glycerin.

Now I use large doses of tr. chlo.,iron, more whiskey than formerly, rarely use a gargle, but always a spray, of which I like the bichloride of mercury, say about 1-1000 used every one to three hours according to indications. It does not take one many years to learn that he cannot follow any one method of treatment in diphtheria to the exclusion of all others. And after all is said and done, it will test the credulity of every practitioner of long experience to say just how much good he has done as a therapeutist in the treatment of this dreadful disease.

DR. BRINKMAN.—I can endorse Dr. Sullivan's views regarding calomel sublimations. I had a case recently of membranous laryngitis or diphtheritic croup, whichever you wish to call it, in which I was prepared to do a tracheotomy on account of the intense dyspnœa. Before proceeding to operate I decided to use calomel by sublimation, burning half a drachm three times a day. On the second day the paient—28 months old, coughed up considerable membrane, and made a good recovery, the calomel being continued. The membrane here first developed in the larynx and subsequently a patch appeared on the right tonsil. There were no constitutional symptoms such as we get in pharyngeal diphtheria. About two weeks ago, after recovery, the voice being still hoarse, paralysis showed itself. The other treatment was bicarbonate of potash internally, but in my estimation the result was due to the calomel, the patient getting easier after the first sublimation. The question as to membranous croup and diphtheria being identical recalls to my mind a child of eight months who developed membranous croup or diphtheritic laryngitis, whichever you will, and died in three days, the other two children developed true laryngeal diphtheria which got well but left paralysis after it.

As regards local treatment in diphtheria I do not think we benefit the diphtheria so much as preventing more contamination by absorption of putrid material from the throat. If you keep the throat clean you prevent sepsis in addition to diphtheritic poison.

From what I have heard and seen I believe with Dr. Henoch, Prof. University of Berlin, "In my experience all remedies hitherto recommended are entirely useless in severe cases of the disease, and these alone should be considered, since the milder ones recover spontaneously." (Lectures in diseases of children.)

DR. BRUNDAGE.—During the past thirty-four years practice in cities and country, the most malignant of all the epidemics of diphtheria that I have seen occurred in 1862-3 in central New York, in a small town, and the adjoining pleasant farming country.

In the latter, it proved very fatal; and the usual practicing physician of that vicinity was said to have lost every case he was called to treat, the people became greatly alarmed, and every precaution was taken to isolate the sick and dead from friends and neighbors; and anxious inquiries were made whether any of the physicians in the town were successful? I was sent for. My first patient was a Miss Emerson, æt. 18 or 20 years. The attending physician had just visited her previous to my arrival. I found her in a very critical condition:—the uvula had sloughed away; the tonsils and surrounding parts were greatly inflamed, and of a gangrenous appearance;

the submaxillary, parotid, and cervical glands, were enormously engorged, and the swelling had extended below the clavicles. The disease, however, yielded to treatment, and she was the first case that recovered in that vicinity. I was sent for far and near, riding day and night, with diphtheritic patches in my throat until from debility and exhaustion, I was obliged to stop and resort to treatment.

I found most all of the cases could be cured, and still believe that most cases of diphtheria are curable. I was called to see a woman, and found her throat mortified—two children lay dead in the house—of course she died.

Another family where two children had died, one of them was sitting up in bed and dropped over dead in the presence of the attending physician who had just remarked that the child was doing well.

I was called that day to treat the mother, Mrs. La G——, she could scarcely swallow—the throat nearly closed—she recovered but suffered some months from debility and partial paralysis. I recall one case where a quack preceded me—the child could not see, hear or speak, when I was called, so far as we could judge—deglutition almost impossible, and great dyspnœa. I urged them to persevere with the treatment, perhaps it was a year before the child recovered sufficiently to run about.

The varieties in that epidemic seemed to be mostly ulcerative, croupous and malignant. My treatment varied to meet indications. Sol. tr. ferri chloridi and a sol. of potassæ chlorat; alternated every two hours also a gargle of the two solutions mixed and used ter in die—sometimes using a small quantity of potassæ iodidi with the tr. of iron instead of chlorate of potassæ.

Frequently, daily applications to the throat of sol. arg. nitrat; or tr. ferri chloridi and acidum hydrochloricum mixed and applied with a small sponge probang or brush.

For fetid breath, liq. sodæ chloratæ (Labarraques solution).

Tonics:—Quinine, tr. cinch. comp, etc. *Nutriments*:—Beef tea or essence, milk, etc. For *alteratives*, *aperients* or *simple purgative*, I gave pil. hydrarg. or Ol. ricini, etc., never using calomel, and scarcely ever any alcoholic stimulants. The results of cases where these remedies were used were very unfavorable. For an external application a thin slice of fat pork sprinkled with salt.

I obtained much valuable information by reading Dr. Daniel D. Slade's prize essay 1860; *The American Journal Medical Sciences; The Medical News and Library;* and the *Half-Yearly Abstract.*

Meeting of May 7th, 1889.

The president DR. E. R. SQUIBB in the chair.

DR. SIDNEY ALLEN FOX reported three interesting cases:

1. Adenoid of the vault of the Pharynx.
2. Strumous Ozœna.

3. Tubercular Phthisis; Secondary tubercular ulcer of Tongue.

Case No. 1.—Adenoid of the Vault of the Pharynx.—Removal, Cure.

Sadie L——, æt 8 years, of No. 112 Bergen Street, came to my clinic at the Brooklyn Throat Dispensary in February, 1889. Her aunt, who accompanied her, said that the patient had been more or less troubled with difficulty of respiration all her life. She slept with her mouth open, snored and made unpleasant sounds while eating. The patient presented all the usual symptoms of a mouth-breather, viz.: the vacuous expression, the open mouth, the dead voice, night-mare, irritability of temper, and the sense of hearing was not acute. She was thin, pale and quite anaemic. About four years ago an excellent practitioner of this city, a professor in a college, advised removal of the tonsils, saying, that after the operation the child would breathe perfectly. The operation, doubtless a proper one, double tonsillotomy, was performed under ether, and the aunt is my authority for the statement that no relief was afforded. For the past four years the patient has been taken to this institution and to that, to one physician or another, but still her condition remained the same. She was treated ineffectually with sprays and powders and all kinds of diagnosis and prognosis were made. A rhinoscopic examination easily made in this case revealed the presence of a large adenoid in the vault of the pharynx. On March 16th, 1889, Dr. French, assisted by myself, removed the mass which I now present. I also present a larger specimen, kindly loaned by Dr. French, in order to better illustrate what hypertrophy of Luschka's gland means. I fancy that some of the gentlemen present would find difficulty in carrying on nasal respiration with that mass in the vault of his pharynx. The result of the operation was to establish normal nasal respiration and to do away with the unpleasant symptoms already enumerated. I bring this case before you to show you how readily may be overlooked a trouble that is easily diagnosed and readily treated and cured. It is difficult to make a satisfactory rhinoscopic examination of the vault of the pharynx in the majority of children, because of their timidity and the dread of instruments, but the index finger can and should always be used when in doubt as to the diagnosis. Having found the adenoid, the next question is the best operation for its removal. In young children, the only operation to my mind is that devised by Dr. Franklin H. Hooper, of Boston, and which has been successfully performed in several hundred cases. It is performed as follows:—The patient is etherized and held in a sitting position on the lap of a nurse. The mouth is held open with the mouth-gag; the palate drawn forward and protected by the palate retractor, and the curved forceps successively introduced until all, or the greater portion of the adenoid has been removed. Should any remain, it can be broken down with the finger. The bleeding is usually slight, the blood being swallowed and afterwards vomited there is little or no after effect, and the relief afforded is immediate and permanent.

I show the instruments used in the operation which are identical with those used by Dr. Hooper, and were made by Codman & Shurtleff, of Boston.

In the cases of misses and youths, old enough to be easily managed, the sharp curette which I show, answers the purpose fairly well; in fact, it is used exclusively in Professor Bosworth's department at the Bellevue Clinic. The Loewenberg forceps, which I hold in my hand, I frequently use with good results. Neither of the latter procedures is, however, as satisfactory as the Hooper operation, because the adenoid cannot be as thoroughly removed. The necessity for the Hooper operation in this case was urgently demanded. Here was a frail little girl, whose mother died of phthisis, breathing, not through her nose as Nature intended she should, but inhaling air of different degrees of temperature laden with dust and other foreign particles, causing irritation and dryness of the pharynx and larynx and laying the foundation for serious mischief in the lungs themselves. Now she can breathe freely through the nose. The air is warmed and moistened and freed of irritating particles. I have not the time nor the inclination to go into the relations of adenoid disease to deafness, to voice production, to the affect upon the general intelligence, to the personal appearance, or to its causation of lung disease and other points worthy of serious consideration.

I am fully convinced that this trouble does not receive the attention from the profession that its importance requires. In looking over a report of an institution in our city, where nose and throat diseases are supposed to receive special attention, I find that out of six hundred and twenty-five cases treated, only three cases of adenoid disease were found. I have seen that number of cases in a single day at the Brooklyn Throat Dispensary, and it was not a good day for adenoids either.

My patient called to see me last Sunday, May 5th, and an examination showed that she breathed perfectly through the nose, the facial expression has changed, she has improved in health, weight and strength; in fact, is entirely cured.

Case No. 2.—Strumous Ozœna—Removal of the larger portions of the Nasal and Turbinated bones; also a portion of the Superior Maxillary bones and a part of the Vomer. Case progressing satisfactorily toward a cure, without special deformity.

Michael J. D.; a cartman, æt. 21 years, single and residing at No. 89 Clifton place. On February 20th, 1888, he came under my treatment, being referred by his sister-in-law. He gave the following history: His father, æt. 62 years, and his mother, æt. 60, are still living and enjoy good health. A sister died of phthisis at the age of 27 years. Last summer I treated a married sister, æt 31 years, who came to me with a cavity at the apex of the right lung. She was greatly emaciated and had night sweats and diarrhœa. The pneumatic cabinet treatment was given and cod liver oil and the hypophosphites administered internally. The patient gained 12 pounds in weight, her disease became arrested and she has since remained practically cured. In July 1887, this patient began to be troubled with headaches, drowsiness and disagreeable odor from the nose. He was treated by a doctor who said his liver was affected. He then went to a dispensary where he was treated for nine months and says he was worse when he left than when he began treatmemt.

An examination made February 20th, 1888, disclosed the following condition of affairs:—Perforation of the septum nasi, necrosis of the nasal bones, two sinuses near the external openings of the lachrymal ducts and an odor so foul that it was almost unendurable. The odor in these cases in simply horrible. While treating this case, I have frequently been nauseated, almost to the point of emesis. The patient was disagreeable to himself and every one with whom he came in contact, and no disinfectant that I used would control the fetor. He had a cough, was losing flesh; he had frequent attacks of vomiting, and was absolutely discouraged, and having been told that he could not be cured, he had about given up the fight for life. On may 12th, 1888, I removed, through the left nasal cavity, the major portion of the nasal bones of that side. In a short time thereafter I removed a portion of the nasal and turbinated bones of the right side, also a portion of the superior maxillary bones and vomer. The bones were so large that, I of necessity, removed them posteriorly, i.e., over the soft palate. The bones removed at each operation I now present, also some portions that were exfoliated of themselves. The patient has increased in weight, there has been no appreciable odor for the five past weeks, and he has been able to work regularly which he could not do at the beginning of his trouble. I recently, with the assistance of Dr. Chas. N. Cox, etherized the patient and passed a probe through the sinus near the entrance to the nasal duct into the nose, and although the patient was under the influence of ether, it caused sneezing, showing me the locality of entrance of the probe into the nose. A recent examination from within proves that there is still a piece of necrosed bone which I shall soon remove, and I believe that the patient will then be cured and without any special deformity of the nose when the large amount of bone that had been removed is considered.

I have preferred to call this a case of strumous, rather than specific ozœna. The patient denied specific disease but was given large doses of the iodide of potassium without apparent benefit. Two of his sisters are known to have phthisis which would clearly show that there is a strumous element in the family, and hence the reason for my nomenclature. I believe that the vigorous treatment given this case prevented the development of phthisis, for as already mentioned, he had a cough, was growing thinner and weaker and was constantly inhaling air fit only to be passed through a sewer. All this coupled with the family tendency to tubercular disease made his condition a very serious one. I should also mention the danger to which he was subjected because of the passage of catarrhal discharges into the stomach, which will partly account for the nausea and vomiting, and

Prof. Bosworth is my authority for the statement that pharyngitis, laryngitis and even phthisis may be caused by catarrhal discharges from the nose to the throat, the patient has of necessity, been subjected to this danger for the past two years. Now he has no cough, no nausea, nor vomiting, but on the contrary, he eats and sleeps well, has increased in strength and weight and is able to work daily without discomfort.

The points of interest in brief, are as follows: The disagreeable odor which was corrected when the cause was removed, the functions of the lachrymal ducts being fairly well preserved notwithstanding the removal of a portion of the bony wall; the large amount of bone extracted without special deformity; the evident production of new bone as was evinced by the large cavity left on the right side of the nose when the two large pieces of bone were removed, and now filled with solid bone.

The nose contributes more to the good looks or homeliness of an individual according to its appearance than any other organ of the body; the sense of smell must be considered, and also the part the nose plays in respiration. For these reasons, and the cure of such cases, I would strongly urge that the necrosed bone be removed early, for I am convinced that if the periosteum be left intact, new bone will be produced and your case cured without deformity.

Case No. III.—Tubercular Phthisis; Secondary Tubercular Ulcer of the Tongue; Removal; Cure.

Charles H. B., shoemaker, æt. 25 years, single and residing at No. 136 Woodbine Street, Brooklyn, N. Y., came under my care October 1st, 1888.

He gave the following history: His father died of phthisis, also two brothers, æt. 18 and 29 years respectively. Two years ago I treated a younger brother for phthisis of the right lung; the disease became arrested and he has since enjoyed splendid health. Both brothers have been subjected to the pneumatic cabinet treatment with excellent result. I may remark in passing, that the cabinet is by far the best means of treating all forms of lung disease that is known to the medical world. The patient has had a cough for the past three years, and he has also had two hemoptyses. The cough has been particularly harassing and has kept him awake the major portion of nights. His weight was 130 pounds and expansion of chest two and one-quarter inches. A physical examination revealed phthisis of the left lung, second stage. The physical examination I confirmed by the microscope, which showed the presence of the bacillus tuberculosis in large numbers. By the persistent use of the pneumatic cabinet, cod liver oil and hypophosphites, the patient has gained steadily in weight, the cough has diminished, until now he only coughs and expectorates on rising mornings, and he has continued regularly at work. All this, despite a troublesome ulcer on the tip of the tongue, which is the interesting part of the case and also the reason why I present him to the Association this evening.

While examining the patient he called my attention to an ulcer situated to the left of the tip of the tongue. The ulcer was about a quarter of an inch in diameter, was ill-conditioned and covered with the products of ulceration. He stated that the first he noticed of this trouble was smarting after having smoked, and soon afterward ulceration began. He showed this to a former medical adviser, who pronounced it nothing. I, however, thought differently, and began to treat the patient for specific disease, although he denied ever having had it, but with no satisfactory results. I successively used solutions of nitrate of silver, chromic acid, and lastly the electro-cautery, all with negative results. In thinking over the case it occurred to me, might this not be tuberculous ulceration? How easy it might have been for him to have performed auto-inoculation with the sharp tacks he held in his mouth while making shoes. In brief, I came to the conclusion that that was just what he had done. The ulcer was becoming larger and more painful and interfering with mastication and deglutition. Something must be done. At that time I was studying pathology with Prof. Biggs, of the Bellevue Hospital Medical College. I removed a longitudinal section of the ulcer, gave it to Prof. Biggs and told him what I suspected. A microscopic examination confirmed the diagnosis. I have here my microscope and some slides showing the process of ulceration, giant cells, etc., etc.; also some slides showing the bacillus tuberculosis, which I shall be pleased to show any gentleman specially interested in the subject.

In looking up the subject of tubercular ulceration of the tongue I have been fully convinced that the cases are rare and the literature of the subject very meagre. No less an authority than Mr. Thomas Bryant in his work on Surgery, says:

"It is right that this disease should have a special notice, since it is neither common nor generally recognized. It has, however, features of its own which claim attention. I have seen several examples of it, but have records of only two."

The case which I show is the only one which I have ever seen, although I have had considerable experience with tubercular disease.

On March 30th, 1889, at my request, Dr. George R. Fowler kindly operated upon the patient at the Methodist-Episcopal Hospital. The ulcer was removed, with enough of the healthy tissue to insure the success of the operation. The patient remained in the hospital sixteen days, and within three weeks from the time of operation the wound had entirely healed, and to-night I am able to present him to you cured of the tubercular ulcer. After the diagnosis had been established, there was no question as to what should be done, but the possibility of inoculating the wound made by the surgeon was a serious consideration. After consulting with Dr. Fowler it was agreed that the operation should be performed, due regard being paid to antisepsis. This was done, and the excellent care given at the Methodist-Episcopal Hospital conspired to bring about the happy result. Although a considerable piece of the tongue was removed it has not in any way interfered with the oral functions or speech.

The case is now before you, Mr. President and gentleman, for examination and comment.

INDIANA STATE MEDICAL SOCIETY.

The fortieth annual session of this society convened at Indianapolis, May 1 and 2, 1889.

Broncho-pneumonia in children was the subject of a paper by G. W. Vernon, M.D., of Indianapolis. He used this term purposely because he meant it and thought it the proper term. He thought the burning of natural gas in this city had become a great factor. The houses had been kept too warm and dry. Mouth-breathing was also coming to be a prominent cause. He thought the disease occurred more frequently among children than adults. The disease may commence in the tubes and extend into the alveola and vice versa, or may commence in the interstitial tissue. In treating the measles, whooping-cough, etc., we should keep under consideration the possibility of this disease.

Dr. Johnson, of Indianapolis, was pleased that the doctor insisted on the term broncho-pneumonia. He thought there were more recoveries from acute lobar pneumonia than from broncho-pneumonia, as the latter is apt to be neglected by the patient. Dr. G. V. Woolen would only criticise the doctor in one point, and that is that he scarcely went above the epiglottis or larynx in his genesis of the trouble. He thought the whole life of the respiratory organs was to be found in the head at the base of the brain. Catarrhal disease he thought essentially a disease of childhood. No man in this body who has not catarrh already will ever, in his opinion, acquire it.

The Hydro-Therapeutic Treatment of Typhoid Fever was the subject of a paper by Dr. G. W. Smythe, of Greencastle, which was followed by a paper on Atypical Typhoid Fever, by Dr. H.McCullough, of Ft. Wayne. He thought irregular typhoid fever much more frequent than generally supposed.

Dr. M. F. Porter thought there were more cases of the atypical typhoid fever than the typical. Authors of text-books he thought had made a great mistake. He opposed the general routine treatment of typhoid fever by cold baths, yet he thinks cold baths in a great many cases are beneficial.

Dr. Leech thought the great question was: are you capable of diagnosing a case of typhoid fever?

Dr. Lomax, of Grant County, had been studying typhoid fever for a long time, but could not now give a good definition of it. It had been thought that the disease should be given a name having some connection with the spleen. He considered the classification of Trouseau into adynamic, ataxic and typhoid fevers the best.

Dr. Mendenhall, of Richmond, said there were 300,000 cases of typhoid fever in the United States each year, and 30,000 of these die. We ought to be interested in this disease. We can never know exactly how to treat until the disease is understood, and I believe we do now understand it. I believe it is caused by germs. When we can kill or stop the production of these germs the cause will be gone and the disease stop. If we give quinine we will get trembling, nervous conditions and hallucinations. If we leave off this and tonics we will not have so much of this kind of trouble. Early in the disease he gives small doses of calomel or bichloride and turpentine oft repeated. Two drams to one pint of turpentine emulsion, and two grains of calomel. He does not use antipyretics.

The discussion on this disease grew quite lengthy and a gentleman rose to a point of order, saying we were already far behind the programme. The president replied that he knew it, and we were leaving typhoid fever about where we found it.

Dr. Smythe in replying said the whole question was simply one of diagnosis. Will we permit our patients to die of secondary troubles or not? He uses Von Ziemsen's graduated bath, and gives quinine in 40 grain doses—having given as high as 70 grains.

Antiseptics in Normal Labor was the subject of a paper read before the Indiana State Medical Society, at Indianapolis, by Dr. G. W. H. Kemper, of Muncie, Ind. The doctor had attended 900 cases of labor in civil practice, and in no one instance had he used a single antiseptic measure, before or after parturition. Two of these women died—one of puerperal convulsions, and the other of acute pneumonia. He had no case of severe puerperal fever among his 900 cases. The causes were of the average gravity, as proven by the particulars which were given. He had some cases which would have demanded the antiseptic treatment if any did. They did not get it and recovered all the same. If he had used this treatment what enconiums he could have bestowed upon the practice. A class of recent converts to antiseptics charge that all who do not avail themselves of this practice are criminally negligent. The health officers' reports in Delaware County—the county in which the writer resides—gives a ratio of 7.5 deaths per 1,000. This included the practice of doctors, midwives and old women; 10 out of the 34 deaths were due to accidents which could not be affected by antiseptics, which presents a more favorable outlook than the hospital practice of the larger cities with antiseptic precautions. He considered the paraphernalia and details of antiseptic midwifery, as laid down by Thomas, Carrigues and others, to be both expensive and tiresome. He had without the formality of an introduction witnessed a number of deliveries within five minutes from his entry into the house. In such cases the time for the ante-preparatory antiseptic treatment of Dr. Thomas would not equal in opportunity that of a death-bed repentance of a subject of Judge Lynch. While he would do something towards antiseptics where it seemed necessary, yet he would not feel it advisable in every case of normal labor—when a patient is surrounded by healthy environments—to attempt to carry out a complicated routine of practice which his experience teaches him is uncalled for.

The doctor, in conclusion, submitted the following aphorisms:

1. The history of obstetrical practice teaches us that the lying-in hospital has always been a place of danger and mortality, therefore it is obligatory on those who have charge of those institutions to utilize every antiseptic measure known to the profession to save life.

2. The experience of country practitioners teaches us that women who are confined in healthy, isolated, rural homes, are not subjected to the contaminating influences of an ochlesis, and consequently do not require all the precautions of those exposed to hospitals or even to the atmosphere of city life.

3. That the country practitioners of medicine will generally show a lower rate of mortality in obstetrical cases than city practitioners, simply for the reason that they practice in healthier localities and less exposed to contagious influences, and possibly have a healthier class of patients.

4. That the insinuations of a number of late writers on antiseptic midwifery, that the death-rate in obstetrical practice of country practitioners is high, are not true, as shown by statistics.

Urethral Stricture in the Male was the subject of a paper by Dr. W. N. Wishard, of Indianapolis. He followed Otis' classification and location of stricture. He discussed the subject of electrolysis in stricture, but was unsatisfied in his ovarian treatment. He finds no method as successful as Otis' operation. It is the only method in which he feels confident of curing the stricture. Absence of fatal, or even serious, results have led him to consider it a safe method, though he avoided operating in cases of kidney trouble.

Nervous Sick Headache was the subject of a paper read by Dr. A. G. Porter, of Lebanon, Vice-President of the Society. Concerning this disease, he said little was written—little known. The treatment was unsatisfactory and the disease very frequent. He thought 99 per cent. was due to a deficient supply of blood to the brain or some part of it. An ounce of sherry wine or brandy in a glass of soda water was good in many cases where there was a chill and depression present, but in many others it was inadvisable. Valerian and asafœtida are very good; two or three drops of dilute hydro-cyanic acid and an emetic if the stomach is at fault. We must abridge hours of study or work.

Dr. Howes, of Richmond, has cured several cases when due to stomach trouble by bismuth and fl. ext. of quassia.

Cholothotomy was the subject of a paper by Dr. Niles F. Porter, of Ft. Wayne. He favored the continuous suture after Tait's method.

A Case of Suppurative Peritonitis was the subject of a paper by Dr. G. W. McCasky, of Ft. Wayne. Glaucoma, by Dr. A. Blitz, of Indianapolis.

Nature and Etiology of Tuberculosis was the subject of a paper by

Dr. R. F. Stone, of Indianapolis. He did not believe in the theory of contagion, and opposed bacteriology and all the ideas of Koch.

Dr. A. W. Brayton, of Indianapolis, admired the doctor's courage to write such a paper as this at this time, for it took courage to make such antequated statements.

Dr. Theodore Potter, of Indianapolis, considered tuberculosis innoculable, and the only cause the tubercle bacillus of Koch. Where the tubercle exists the bacillus exists; and we have in the tubercle bacillus a positive diagnosis of tuberculosis. If the tubercle bacillus is excluded by a careful examination we can exclude tuberculosis. We might as well not believe in the spermatozoids which made us as not to believe in the tubercle bacillus.

Dr. Stone in reply, wished to be put on record that he was opposed to this fallacious theory of germs. It is a myth. I do not believe in antiseptics, only so far as it induces cleanliness.

The President's address was delivered by Dr. W. H. Wishard, of Indianapolis. His address consisted of a retrospect of the practice of medicine for the past half century. He considered this period one of great progress in science as well as other things. The great thing is, have we as medical men, kept abreast with the times. He endeavored to make his answer pre-convincingly in the affirmative. The primitive Indiana doctors had not great advantages of education. In 1817 the Transylvania University, at Lexington, Ky., opened a medical department, and in 1818 John L. McCulloch was the first graduate in medicine west of the Alleghaneys. This soon grew to be the second medical school of the United States. In 1819 the Medical College of Ohio, at Cincinnati, and in 1837 the Medical Department of the University of Louisville were formed. Not 10 per cent. of the physicians of Indiana in 1825 were graduates, and only 20 to 25 had taken one course in medicine. Ephriam McDowell was not a graduate, but after thirty years of practice, the University of Maryland gave him the degree of Doctor of Medicine, Honorary. There was but one medical journal in the United States in the early part of this century—*The Medical Repository of Philadelphia.* Obstetric business was all in the hands of females. It was necessary. Physicians were scarce. Women were healthy, and nature needed but little aid. Such an affair was quite a celebration to the female portion. Not to be invited was a great slight. The physicians were looked upon with suspicion in this line of practice and were not summoned unless there was great necessity. When summoned the news spread like wildfire, and the neighbors turned out *en masse*, as though it was a funeral or a wedding. A log cabin 12 x 14 would be literally packed by women and children —with sometimes a few men. Early settlers were almost exempt from tuberculosis, diphtheria and cerebro-spinal meningitis. Only the strong and healthy ventured to the front. In winter pleurisy and pneumonia raged. The doctor was a dealer in second-hand goods. Four-fifths of the fatal cases had been treated by the old women till the case was hopeless. He well remembers when quinine first came into use. He was given a prescription consisting of 30 grains of quinine, 10 drops of dil. sulphuric acid and 6 ounces of water. Dose—teaspoonful to be taken three times a day with great care. He has known an old thumb-lancet to descend as an heirloom from the father to son, and grandson, and had drawn more blood than some regiments in the late war. An old theory was that if you would draw blood from the right arm when the pain was in the left, you would draw the pain across the heart and kill your patient. The curtain was first lifted in the treatment of fevers by Dr. Lunsford P. Yandell, of Louisville, and the light has been shining more and more ever since. He thinks the domain of surgery has made wonderful progress in the last fifty years. The good dame of fifty years ago would show her ten or a dozen sons and daughters, the pride of her life, the hope of her future. To-day we are shown one son or daughter and a poodle dog—often only the poodle dog all the hope of this family. The doctor then paid some scathing tributes to criminal abortion, and went on to discuss the Fortieth Anniversary of the Indiana State Medical Society. Organized June 6, 1849. Twenty-eight physicians were present, of whom now only five are living—four in Indiana and one in Texas.

Dr. King, of Indianapolis, related the incident of his father and mother both dying within seven minutes of each other from being bled, forty years ago, only a few miles from Indianapolis.

Dr. Leech, of Indianapolis, spoke on criminal abortion, and told an interesting story of how he saved two twin girl babies, and what pleasure he derived by seeing them playing on the hillside as he drove past their home.

TENNESSEE STATE MEDICAL SOCIETY.

The Tennessee State Medical Society met in its regular annual session at Nashville, April 30th, May 1st and 2d, with the President, Dr. T. J. Happle, of Trenton, in the Chair, and the Secretary, Dr. D. E. Nelson, of Chattanooga, at the desk. The Treasurer reported $169.68 in the treasury. Much attention was paid to legislation, and it was reported to the Society that, as the result of forty years' labor, the Legislature had at last been persuaded to pass a law regulating the practice of medicine. Though this was far from perfect, yet it was a great gain, and all should give it their hearty support. The following gentlemen were recommended to the Governor for appointment as a Board of Examiners: Drs. C. Deadrick, Knoxville; J. B. Durfee, Murfreesboro; D. D. Saunders, Memphis. A resolution requesting the Legislature to pass the bill now pending, requiring the registration of births and marriages, was passed.

Election of officers resulted as follows: Dr. Duncan Eve, Nashville, president: Drs. Henry Berlin, Chattanooga, James B. Neil, Marshall and J. P. C. Walker, of Dyersburg, vice-presidents. Dr. E. D. Nelson, of Chattanooga, secretary and Richard Nelson Cheathem of Nashville, treasurer. The next meeting will be held at Memphis, the second Tuesday in April, 1890.

KENTUCKY STATE MEDICAL SOCIETY.

Prolapse of the Ovaries was the subject of a paper read at the 34th, annual meeting of the Kentucky State Medical Society at Richmond, on May 9th, 1889, by Dr. E. S. McKee, of Cincinnati. The doctor though acknowledging that this trouble was often rather more of a symptom than a disease, yet it had many characteristics peculiar to itself and merited a separate consideration. He considered it much more frequent than was generally conceded. The site of the dislocation is as follows: into the lateral pouch, of Douglas, the true pouch of Douglas, andthe anterior or vesico-uterine pouch of the inverted uterus. The last is a position of the greatest rarity and the last but one is quite rare.

Causes which lead to an increase of weight, induce tractions from below, or pressure from above, or induce feebleness or lengthening of the supports as the condition present during the puerperal period displacements, especially the posterior one, and violent straining at stool are conducive to this trouble. The left ovary is more usually prolapsed, not only because it is more subject to disease, but by reason of its greater enlargement during pregnancy. There are several conditions which tend to induce this condition in this ovary, chief of which the valveless state of the left spermatic vein, which makes the vessel easily affected by an obstruction in the general circulation.

The ovary generally becomes displaced as follows: it sinks downward and backward and at the same time describes an arc toward the median line. The fallopian tube and ovarian ligament form chords. This brings the ovary behind the uterus. The ovary in its descent reaches that portion of the pelvic fossa just above the level of the sacro-uterine ligament known as the retro-ovarian shelf, where it may remain.

Spasms of sickening neuralgic pains of an unnerving character are felt in the pelvis and surrounding parts. Marked pain on walking and coition, with torturing pain on defecation are experienced, with hysteria and melancholia.

Diagnosis is as a general thing easy. If difficult the patient should be examined while lying on her left side, as the preineum can then be pushed up at least half an inch and the finger reached that additional distance up the posterior wall. Rectal examinations will permit the finger going at least an inch higher up into the pelvis than an examination per vagina. An anæsthetic may be of service in some cases. We must not mistake the elevation of the contents en masse for mobility of the ovary.

Prognosis depends on the duration of the disease, the condition of the ovaries, and the presence or absence of complications.

Treatment.—Sexual intercourse if permitted at all should be carefully regulated. The intestines should be kept empty with a preparation of mercury. Pessaries, he thought lead to more harm than good. Bozemen's method of packing or columign the vagina with the patient in the knee chest position offers superior advantages. Campbell's position on the knees and chest if faithfully and frequently carried out is is also of great benefit. The essayist had seen it prolapse ovaries follow the ascending uterus as it escaped from the pelvis at the fourth month of pregnancy, and after delivery remain in their proper position Shultze's method was discussed but considered as yet sub-judice. Oöphorraphy, in the opinion of Imlach, of Liverpool, was an operation of merit, but his had not been accorded with by other writers. Taite's operation had not been followed by the permanent results expected of it. Hysteriaraphy affords more or less relief to patients, and extirpation as a *dernier* resort sometimes becomes necessary.

SELECTIONS.

THE ETIOLOGY, PATHOLOGY AND OPERATIVE TREATMENT OF RACHITIC DEFORMITY, AS BASED UPON ONE HUNDRED AND FIFTY-EIGHT CONSECUTIVE OSTEOTOMIES, WITHOUT SUPPURATION. By Charles N. Dixon Jones, B.S., M.D., of Brooklyn; Surgeon to the Woman's Hospital and Hospital for Children in Brooklyn; Fellow of the New York Academy of Medicine, and of the British Gynæcological Society, etc.

Any one who has read Sir Walter Scott's touching and sympathetic story of the "Black Dwarf" can appreciate the intense mental suffering which a person of a sensitive and highly organized mental constitution experiences on account of marked bodily deformity. This ideal being, who was represented as residing in solitude, haunted by a consciousness of his own deformity, and a suspicion of his being generally subjected to the scorn of his fellow-men, was not altogether imaginary. As he says of himself, "I am a poor miserable outcast, fitter to have been smothered in the cradle than to have been brought up to scare the world in which I crawl." The sense of his deformity haunted him like a phantom, until at last, he became alternately a pilgrim and a hermit, suffering the most severe privations, not indeed in ascetic devotions, but in abhorrence of mankind. Such a character could only have been suggested by a close and intimate acquaintance with rachitic deformity.

Rachitis is a disease of early life. All who are connected with our large dispensaries must have observed the great prevalence of this disease among the applicants for medical aid. While more common among the children of the poorer classes, still it is not infrequently met with among the children of the better classes of society, perhaps not in its most advanced stages, yet it is sufficiently well marked in some of its manifestations to be easily recognized. While not so common in this country as in some of the European countries, yet according to Dr. Parry, in the Philadelphia Hospital, 25% of all the children between two months and four years of age are rickety, while in some of the European countries, especially England, Scotland and parts of Germany, the proportion is even greater. The recent report of the collective investigation committee of the British Medical Association states that rickets, though not unknown in rural districts, is mainly a disease of towns and industrial regions and especially of large manufacturing towns. In the densely populated and industrial portions of England and Scotland it is especially prevalent, and is all but universal in Glasgow and its suburbs. In the New York Infant Asylum, a few years since, one in every nine, by actual count, presented marked rachitic symptoms. In this country the disease occurs for the most part in children whose parents were born in Europe, principally the Anglo-Saxon and Latin races. It is comparatively rare in children of native Americans, with the possible exception of the Negro race, among whom it prevails to a most astonishing extent.

Rachitis or rickets is a disease that should command not only the attention of the surgeon, but that, of the general practitioner as well, in order that its results, deformities of the limbs and abnormal shapes of the chest and pelvis, may be prevented. Rachitis has been defined by Bouvier as an affection of the young, a vice of ossification, with softening, curvature and deformities of the bones. This definition is clear and precise, and is founded on a lesion and a condition which is anatomically well characterized, but it does not fully cover the ground. Rachitis is a general constitutional defect, and the osseous structure is involved in common with every other tissue of the body. It should be remembered that rachitis is not a disease of the bones alone, but according to the most recent writers is a general nutritive disorder which affects all structures, not only bone but muscles, ligaments, skin, mucous membrane, the blood, arteries, and the nervous system. It is complicated with or dependent on disorders of the digestive or respiratory apparatuses, which are preceded by a disposition probably created by an undue width of the arteries. (Jacobi).

One of its prominent symptoms is muscular debility—sometimes so great as to be mistaken for actual paralysis. The patient may appear plump and fat, but his muscles are flabby.

Changes in the subcutaneous tissue are also present; fat is either present in excessive amount, or deficient. Changes in the mental and moral faculties, are also present. Enlargement of the spleen, liver and of the lymphatic glands, in different portions of the body are common accompaniments of this disease. Rachitis affects the growth of the teeth. The appearance of the teeth is retarded, or if they make their appearance they soon drop out. Sir William Jenner states that if the child have no teeth by the ninth month, it is probably rachitic. Usually only one set appears and these are wide apart and few, as seen in Fig. 18. This fact will be further illustrated in the cases to be presented.

While the above mentioned symptoms are manifesting themselves, most important changes are taking place in the bones. These consist in an hyperæmic condition of the primordial cartilages of the epiphyses, with copious deposits of new material in that region and also under the periosteum with softening of the diaphyses, so that curvatures occur, and while this process continues, true ossification of the bones does not progress.

HISTORICAL.—There is good reason to believe that this disease was described by Hippocrates and Galen. Bœtius and Serverin, who claim that there can be no complete medical histories without the mention of these names, have found among the writings of these authors descriptions of diseases analagous to rachitis. Others believe that there has always existed a species of rachitis, even although this affection was never scientifically described.

Literature has preserved even to our times types of deformity such as that of Æsop and Thersites, who lived centuries ago and presented apparently types of rachitic deformity.

The first scientific description of the symptoms and pathology of this affection was written by Whistler and appeared in England in the early part of the 17th century. While to England belongs the honor of first describing the disease, it has also the not so enviable distinction of having the disease denoted by its adjective appellation, for rachitis still goes by the name of the English disease; in French, Morbus Anglicus; German, Englische Krankheit. Glisson, about the year 1650, gave a description of the disease and used the term rachitis.

ETIOLOGY.—In studying the etiology of rachitis we must approach it from two points of view, its predisposing and its direct causes. The predisposing causes of rachitis have been studied by Beneke from an anatomical standpoint. He found that the arteries in rachitical patients were abnormally large.

In three cases where the arteries of the neck were unusually large, the children died young, one of hydrocephalus, one of an abnormally large skull and one suddenly. The period of life at which the arteries are found to be abnormal corresponds to the time at which the rachitic process is most marked, viz.; the second to the fourth years of age. This affords an explanation of the hyperæmic condition of the bones, especially at the junction of the epiphysis, where the growth of the bone is most active, and also of the increase of development and eburnation of the bones after the morbid process ceases.

As above stated in rachitis the normal proportion of the blood vessels to the heart is greatly changed. Of this Jacobi, well says (Address, February, 1887): "As it is not probable that a chronic disorder in its slow progress should work a rapid change in the blood vessels, the inference is a sound one, that if the disorder can not have altered the blood vessels, these must have given rise to or be connected with the nature of the disorder.

"For instance, in rachitis the heart is of average size but the arteries are abnormally large. Great width of arteries lowers blood pressure."

Thus is best explained the murmur first discovered by Fisher, of Boston, over the fontanelles of rachitical babies, very much better than as Jurasz asserts by osseous anomalies in the carotid canal.

Another result of the low blood pressure is the retardation of the circulation in the muscles, with flabbiness and incompetency as consequences, and still more about the epiphyses, which swell and soften. It is very much less the cartilaginous condition of the epiphysis which gives rise to rachitis (for some of them do not ossify before the twentieth year or later, at a time when no rachitis is observed), than some constitutional disorder of which the principal one may be, as stated, the unusual size of the blood vessels. There are other anomalies in rachitis which aid in the retardation of circulation, viz.: the large size of the liver and the smallness of the lungs. Through these influences ossification becomes irregular and defective. The slowness and irregularity of the circulation, dependent on these conditions, together with the watery condition of the blood, are the predisposing causes giving rise to catarrh of the pharynx, larynx and respiratory organs in general, with which rachitical subjects are so generally affected.

There is another interesting consideration to which one writer has drawn attention: Owing to the relatively large diameter of the arteries a greater number of red blood corpuscles is required in order to properly fill them. Now, in the rachitic, owing to the impairment of the digestive and hæmatopoietic organs, the blood-making process is not so active, so the tissues must necessarily show the effect of the relative increase of the watery constituents of the blood, a condition which the biochemists have found to uniformly exist in the rachitic.

In the healthy infant the pulmonary artery is larger than the aorta by not more than four millimetres. In the rachitic subjects examined by Beneke, the pulmonary artery was found to be proportionately much greater in size, thus affording an anatomical explanation of the pathological processes so frequently found in the lungs of the rachitic. For, while the amount of blood carried to the lungs is relatively greater than in the normal condition, owing to the disease of the bones of the chest, the lung space is contracted and consequently the circulation of blood in the lungs is impeded.

There is also a variation of size in the other organs of the rachitic, and the combination of variability found in the rachitic subject does not correspond with that found in other constitutional disorders, as for instance in scrofula, Beneke found a small heart, unusually narrow arteries and a small liver. From these considerations the conclusion is drawn that these variations of size are not the results of the disease, but that they are congenital and stand in some causal relation to it.

The direct cause of rachitis was attributed by Glisson to the inequality of nutrition by the arterial blood, and curvature of the long bones to their superabundant vascularization.

John Mayow (1761), held a disturbance of the innervation responsible; Zeviani (in the same year), improper food generally and particularly prolonged lactation; others have attributed it to an undue production of acid and the softening of the osseous tissue thereby. C. Heitzmann fed both herbivarous and carnivorous animals with lactic acid and found the cortical layers of the bones softened and the medullary substance hyperæmic, and claimed to produce osteo-malacia in the former and rachitis in the latter. It cannot be doubted that rachitis occasionally occurs as a congenital disease.

Cases have been reported by Chiari, Jacobi, Burrall and Gueniot. Kassowitz examined many still born infants and also children dying shortly after birth, and, in a large majority, found rachitical changes in the ends of the bones. In many of those, who lived several weeks after birth, the rachitical changes were advanced to such a degree that its uterine origin became clearly demonstrated. I have observed well marked bowing of the tibiæ at birth. That direct inheritance is not a constant or essential factor is proved by the fact that perfectly healthy parents, who have never been rickety and show no trace of it, may have and constantly do have rickety children. We may then eliminate inherited tendency, at all events, as an essential condition.*

Schwartz (*Med. Woch.* 1887) has demonstrated by an examination of 500 children within an hour after birth at the lying-in hospital in Vienna, that the signs of rachitis can usually be found at that early period, showing the disease to be, at least occasionally, intra-uterine in its commencement. Of the 500 children, 97 were without signs of this disease; 188 had well marked rachitic rosaries together with rachitic changes of the cranial bones, varying from an abnormal weakness along the border of the sagittal suture to an almost complete defect of ossification of the cranium; 155 had well marked rachitic rosaries without the changes in the cranial bones; 36 had the changes in the cranial bones alone, and 24 presented only slight swellings at the unions of the bones and cartilages of the ribs. Of the children born in the seventh lunar month, 14 were rachitic, 1 normal; in the eighth lunar month 27 rachitic, 4 normal; in the ninth lunar month, 50 rachitic, 12 normal. Fifteen of the mothers of rachitic children presented signs of having suffered from a high grade of rachitis. Of six cases of twins, in three, one child was normal, while the other was rachitic, in the other three, both children were rachitic.

His conclusion is that every child should be examined as soon after birth as practicable, and, if any signs of rachitis are found to be present, active treatment should be immediately instituted. (*N. Y. Med. Jour.*)

Rachitis is a disease occurring during the rapid development of the tissues, therefore anything that interferes with normal growth and development is apt to change physiological function into a pathological condition and produce rachitis. Therefore all influences that impair the nutrition and injure the strength in parent or the child itself, such as bad feeding, foul air, damp, cold rooms, want of sunlight, want of exercise and want of cleanliness, must be looked upon as predisposing causes of this disease.

Of the many special causes that have been brought forward at one time or another as the essential agent in the production of rachitis, that of special defects in diet or a faulty composition of the child's food has perhaps the strongest claim on our attention. In a discussion on rickets at the annual meeting of the British Medical Association, August, 1888, Dr. W. B. Cheadle in introducing the subject, claimed that "the food factor is the only factor which is anything like constant." He believed it traceable in every instance. Syphilis may be absent, hereditary taint may be absent, all external condition of malhygiene may be absent; yet, in spite of this, a child brought up on artificial food may become rickety. The fault lies in some defect in the artificial food, in some quality in which it differs from the non-rachitic food of human milk. The form of improper feeding most frequently associated with a rickety constitution is a farinaceous diet.

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* Dr. W. B. Cheadle. *Brit. Med. Jour.*

An examination of the different artificial foods shows a grave defect which is common to all; they are remarkably deficient in two important elements.

The abundance of fat in human milk, constituting as it does one-fourth of the whole solids, indicates its extreme importance as a constituent in the food of the growing child.

An inquiry into the diet of the rachitic children that have come under my observation supports the views of Dr. Cheadle. Many of them have been fed on diluted condensed milk or other foods in which animal fat and easily digested proteids are conspicuously absent. Several of the children while under treatment have shown an aversion to butter and milk, and inquiry has elicited the fact that those articles of food have formed a very small proportion of their former diet. In support of his views Dr. Cheadle cites the experiments in the feeding of the young animals in the Zoölogical Gardens, London. A single example will illustrate: It seems that the young animals are extremely liable to become rachitic there. In rearing the young lions, as a rule, the lioness can not be trusted to suckle her cubs, she either injures them or neglects them and they have to be fed by hand. The food on which they have hitherto been fed, the flesh of old horses, is almost destitute of fat.

The bones were found to be proof against the teeth of the adult lions even, and those of the cubs were powerless to deal with them. Once a week they were given goat's flesh, which is also poorly supplied with fat. This diet would be especially deficient in fats and the earthy phosphates. The feeding of the last litter of lion cubs was commenced in this way: "They quickly developed marked rickets and one died. Then, at the suggestion of Mr. Bland Sutton, the diet was changed. The meat was continued, but in addition to it cod liver oil and pounded bones were given with milk. No other alteration whatever was made in any way. In three months all signs of rickets had disappeared; and now, at eighteen months old, they are perfectly strong and healthy and well developed, a unique event in the history of the Society."

He sums up the general pathology of ordinary rickets thus:

1. It is primarily a diet disease which can be caused at will by a

rachitic diet just as certainly as scurvy by a scorbutic diet, and which can be cured as certainly by an anti-rachitic diet as scurvy by an anti-scorbutic diet.

2. That the chief defect in diet which causes rickets is want of animal fat.

3. With this probably also deficiency of the earthy salts in form of phosphates.

4. A deficiency of animal proteids in conjunction with the preceding intensifies the condition.

5. The rickety state is accentuated by evil hygienic conditions, such as foul air and want of light, although these are not essential to its production.

6. Rickets is modified in character by the concurrent existence of congenital syphilis and of scurvy.

CHEMISTRY.—Defective calcification of the forming bone is one of the leading features of rachitis. The normal proportion of lime does not enter and cannot remain in the osseous tissue, but is rapidly eliminated by the kidneys and intestinal tract. One hundred parts of bone, according to the analysis of Gorup Besanez, contain:

	OSSEIN.	PHOSPHORIC ACID.	LIME.
Healthy bone - - - -	34	26	34
Rachitic femur - - - -	72	7	9
Rachitic tibia - - - -	60	12.9	17

Thus chemical analysis confirms the experiments of the pathologist.

PATHOLOGICAL HISTOLOGY.—Rachitis is, for the most part, a disease of the osseous tissue occurring during the period of development of the bones. It is characterized histologically by disturbances of nutrition of the tissues that contribute to the development of the bones. We must then look for the pathological changes attending this disturbance of a physiological process at the points where the growth of bone occurs, viz., the peritoneum and the places of apposition between epiphysis and diaphysis.

Normal Ossification. The long bones are developed from cartilage. The skeleton of the embryo is first formed in cartilage and normal ossification occurs with great regularity. This precursory cartilage may be regarded as a temporary substitute for bone, affording, as it were, a mould of definite figure and form in which the osseous material may be deposited. A section of the bone shaft of a human embryo, at about the fifth month, shows that it is composed of hyaline cartilage, with many medullary spaces. At the point where calcification first commenced the cartilage cells became arranged in regular rows. At this point the basis substance is soon found to be the seat of calcareous deposition. This is beautifully shown in the accompanying drawing (Fig. 1). If we examine minutely a section of an ossifying bone, it may be observed that the cartilage cells at a distance from the ossified part are uniformly disseminated in the matrix, but when at or near the points of ossification, the cells are arranged in rows or oblong groups, between which the transparent matrix appears in the form of clear longitudinal lines, obliquely intersecting each other at intervals. At a point lower down it may be observed that this matrix, together with portions of the capsules of the cartilage cells, have become the seat of an earthy deposit.

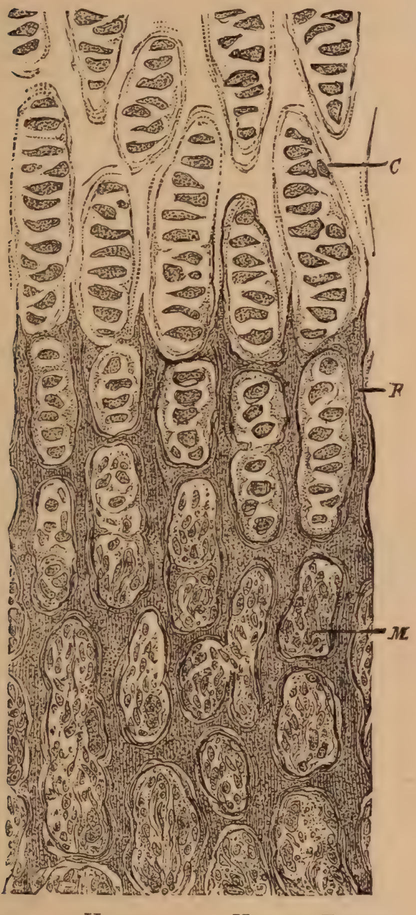

FIG. 1.—HUMERUS OF HUMAN EMBRYO, FIVE MONTHS OLD. SAGITTAL SECTION. —*Heitzmann.*

C, Rows of cartilage corpuscles in elongated groups, due to their territories. F, Frame of calcified basis substance, around which, in the lower portion, the first traces of bone-tissue are noticeable. M, Medullary space, containing medullary corpuscles. (Magnified 500 diameters.)

So that the new calcareous material at first forms oblong areolæ, or loculi, enclosing the groups of cartilage cells. But this process of calcification which differs from that of the true bone formation is only transitory, and a short distance below we see a change taking place in the newly formed tissue. The primary areolæ, above described, opens into one another both laterally and longitudinally, and by their coalescence give rise to large secondary or medullary spaces. The primary calcareous plates are all finally absorbed, while the walls of the medullary spaces are thickened by the deposit of layers of new bone. The calcareous deposition occurs only in the broad masses of basis substance, between the region of the cartilage corpuscles, and lower down the spaces are filled with medullary corpuscles. At the lower portion the first traces of new bone can be seen in the form of bright rings attached by their convex surfaces to the calcified frames. This frame work of calcified tissue is soon dissolved and the cartilage cells proliferate, forming medullary cells. True ossification now begins. Some of these cells begin the formation of bone tissue, while others are surrounded by the osseous substance and become bone corpuscles.

Ossification in Rickets. We have seen that in the normal process of ossification the cartilage is reduced to an embryonic condition giving rise to medullary cells. At the same time the formation of new blood vessels occurs. In rickets all this preparatory process is going on at a more rapid rate, but the formation of new bone from the medullary tissue is very scanty or entirely absent.

In a sagittal section of the epiphyseal end of a rachitic bone we notice a zone of an intensely reddish color at the point of transformation of cartilage into medullary tissue. The cartilage cells contain a larger amount of bioplasm than normal, the calcification of the cartilage is scanty or absent and occurs in irregular patches. An increased formation of blood vessels occurs. At the peripheral portion of the epiphyseal cartilage a formation of vascularized cartilage, instead of bone can be traced, while the newly formed trabeculæ of bone are scanty, irregular in shape and filled with large bone corpuscles. This is well shown in Fig. 2.

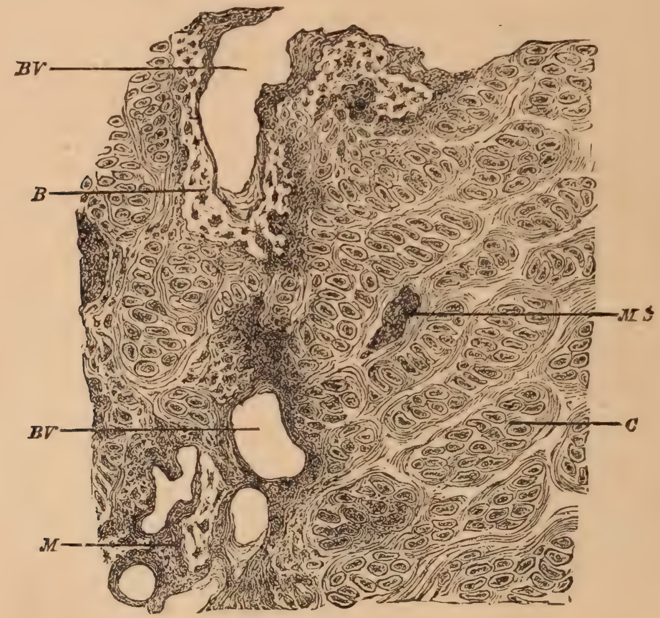

FIG. 2.—RIB OF A RACHITIC CHILD IN TRANSVERSE SECTION. *Heitzmann.*

C, Cartilage corpuscles arranged in territories. MS, Medullary space sprung from cartilage tissue. M, Medullary tissue with very large blood-vessels, BV. B, a scanty new formation of bone tissue. (Magnified 200 diameters).

At the borders of the bone shaft we find between the thin cortical bone tissue and the fibrous portion of the periosteum a broad layer of medullary tissue. The vascularization of this tissue is so great as to give rise to the appearance of a hæmorrhage.

The bone generally remains in a stage of cancellous structure with large irregular spaces.

As Kassowitz well says, lime cannot be deposited in the immediate neighborhood of a copious blood supply. But why does the rachitic process have a special affinity for the growing bone ?

Kassowitz urges that the growth of bone differs from all other tissues, in that the latter grow uniformly throughout their whole mass, that the circulation in them is more uniform and carries nutrition into and through every particle simultaneously, while in the bones the only places in which the whole circulation can contribute to their growth are the epiphyseal cartilage, periosteum and marrow. Every morbid irritation, whether resulting from bad air, food and habitation, or from acute or chronic ailment, acts on the whole mass of other tissues or organs, but in the bones only on the growing ends or surface. During the active progress of this disease the bones can be bent by the least possible force and their spongy portions can be easily cut with a knife.

The ligaments are often altered in their structure and become relaxed. This is shown in the yielding spine and the relaxed bone and ankle joints. If the bone deformities remain uncorrected, their relaxation exists even until late in life. In one case, which has come under the author's observation, a condition of bow legs still existing in a man 50 years of age is associated with marked relaxation of the crucial and lateral ligaments, apparently due in part to an effort of the patient to overcome the genu varum by a still further stretching of the internal lateral ligament. However profound may have been the pathological changes in the bones, as soon as the tissues become properly nourished and the child commences to recover from the disease, the bone cells rapidly take up calcareous matter from the blood and dense bone is formed producing the condition called eburnation or sclerosis. Rachitic changes in the osseous tissue do not affect all the bones of the skeleton in equal degree, or even the different portions of any individual bone to the same extent. The bones of one limb may be quite hard, while the other is soft, or the softening may be more marked in the shaft than in the epiphysis or *vice versa.* In operating, I have often noticed that the bone of one limb was softer than that of the other.

Macewen claims that different deformities may be explained by this irregularity in the portion of the bone on which the intensity of the rachitic process falls. Rachitis is not usually developed after the age of five years, although Macewen believes that it may be developed even up to the twentieth year of age, especially after the exanthemata or other debilitating disease.

I have not met with cases of this charcter.

Rindfleisch thus describes the manner in which the deformities occur: "The bones bend, or what is just as common, they break on one side like a roll of paper, while the other side is simply stretched across the seat of fracture and the central marrow is crushed." (Green stick fracture.)

Rickets being assumed as the general and common predisposing cause of these deformities, what is the element, or the direct and determining cause, of the deformity?

The theory that the deformities are the result of muscular action cannot be supported by facts. As pointed out by Ogston, the normal shape of the bones is produced, not so much by forces within themselves, as by the action on them of normally acting muscles and such like external agents. It should be remarked that the inferior extremities are more curved than the superior, a fact which did not escape the observation of Glisson. This fact can only be explained by their position and that they support the weight of the body. It has been observed that children who are confined to bed during the acute stage of rickets, and in whom the weight of the body is prevented from being thrown on the lower limbs until the bones are firm, are not the subjects of these curves. Again, those persons whose occupation compels them to stand much of the time on their feet are frequent subjects of such deformities, so much so that the German vernacular for knock-knee is *Backerbein* (baker's legs).

The causes determining the special deformity in any given case are various. The intensity of the rachitic process in any particular portion of the bone affected, and the age of the person affected. The more intense the action and the younger the person, the greater will be the number of curves.

The tibial curves belong to the first two or three years of life. If the shafts of the bones are more affected than their extremities, one would expect bow-legs and not knock-knees ; if, on the other hand, the distal extremities of the femur are more affected and the shafts less we would expect genu valgum as a result. The particular manner in which the weight of the body is directed on the bones, whether the child walks, creeps, sits or shuffles along the floor, each has its effect.

Attention has not been drawn to the fact that in crawling along the floor the weight of the body is thrown on the knees and inner sides of the malleoli, thus tending to produce genu valgum. It should also be remembered that the deformities are frequently but exaggerations of normal curves. Prof. Fischer has drawn attention to the fact that all organs during their growth assume a spiral shape, something like a corkscrew, and that the spiral curve always takes a definite direction, right or left, according to their anatomical relation to a central axis. Many deformities he attributes directly to an increase or diminution of normal spiral curves, as for instance, scoliosis and genu valgum and varum.

SURGICAL TREATMENT OF RACHITIC DEFORMITIES.—While it is true that every case of knock-knee or bow-legs does not demand surgical interference, yet spontaneous cures with rectification of the deformities are exceedingly rare.

While the bones are soft, orthopædic apparatus may be of benefit, but after eburnation has taken place or even become well advanced, it is worthless.

The importance of the early recognition and the early treatment of bow-leg and knock-knee deformities cannot be too strongly emphasized. Although there may be a slight improvement in the deformity, corresponding with a general improvement in the health and nutrition of the individual, yet the expectation of a perfect cure by unaided nature will most frequently end in disappointment.

Far better results, in a shorter space of time, with much less suffering, can be obtained by judicious surgical interference. I fully agree with Roberts that " the surgeon who assumes the responsibility of giving advice or administering treatment in these cases should never be content short of a result which will enable the patient to advantageously receive the weight upon his legs when in the erect posture. The prime function of bone is to sustain weight. If the relationships of the long bones of the lower extremities are not such as will permit of their receiving advantageously the entire weight of the body, an undue strain on the soft parts is inevitable, and sooner or later discomfort or suffering will, as a rule, result. The pain and discomfort which result from the continuance in adolescent and adult life of even a slight amount of deformity is often very great. Especially is this the case if, with increased years, there is a proportionately greater increase of weight of body." A reason for this belief is the frequency of adult cases of deformity seen on our streets. I have frequently counted as many as 10 to 15 in a few hours' walk.

In Glasgow, notwithstanding the enormous work of Macewen and other surgeons, an equal number of cases may be counted in a walk of a few minutes, showing conclusively that many cases never become corrected spontaneously.

" Osteotomy," says Macewen, " in its broadest acceptation may be defined as a section of a bone.

" It has, however, been regarded in a much more restricted sense, the term being applied to such divisions of bones as have been proposed and undertaken for the relief of deformity, for the rectification of badly united fractures and for the straightening of limbs affected with osseous anchylosis, which are fixed in a bad position." (*Osteotomy.*)

The first osteotomy for the rectification of anchylosis was performed by Dr. John Rhea Barton in 1826. Langenbeck, in 1852, made a division of the femur for anchylosis of the hip-joint by perforating the bone with a drill through a small wound in the soft parts, and then divided the bone with a narrow saw. To this operation he gave the name of subcutaneous osteotomy.

In 1875, Volkmann, of Halle, operated antiseptically on two cases of anchylosis of the knee-joint, and in the same year Macewen performed a similar operation. These two influences, the introduction of Listerism and the subcutaneous method of Langenbeck have made osteotomy one of the safest operations in surgery. Without the advent of antisepticism, osteotomy would have remained an operation confined to the few, or would have entirely receded from the field of surgery. The honor of introducing antiseptics into osteotomy is due to the distinguished Volkmann, of Halle.

Various instruments have been employed for the performance of osteotomy, including trephines, bone perforators, gimlets, chain saws, round saws, ordinary saws, trocar saws, and electric saws, some for subcutaneous and others for open wounds; the last and best of all is the chisel. There are two forms, in one the edge is beveled, as in the ordinary carpenter's chisel; in the other the blade has the shape of an elongated inclined plane, and to this Macewen has given the name "Osteotome" in order to distinguish it from the chisel proper. (Fig. 3.)

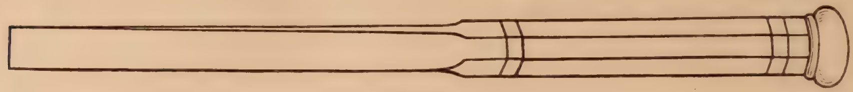

FIG. 3.—MACEWEN'S OSTEOTOME.

The osteoclast is an instrument of tremendous and brutal power which I hope will never be generally adopted by American surgeons. As some one well puts it, "the osteoclast should become an historical surgical reminiscence; while Macewen's chisel should be canonized as the ideal scientific corrector of bone deformities."

Osteotomy may be either linear or cuneiform. A section of bone by *linear osteotomy* is made through a small wound just large enough to admit the osteotome. The bistoury should be maintained *in situ* to serve as a guide to the osteotome which is inserted at its side.

The osteotome is introduced in a line with the incision in the soft parts; when it reaches the bone it is turned to the direction that the osseous incision is to be made. In selecting a site for the incision in the soft parts, it should be made so as to avoid wounding any of the larger blood-vessels. In the hand of the expert operator the osteotome becomes a probe and the sensations conveyed through the instrument enable him to ascertain all that could be known by the introduction of the finger. The osteotome should be directed so as to cut away from any important structures that lie close to the bone. At the same time, the sides of the instrument being blunt, it may be used so as to turn aside the soft tissues, meanwhile keeping the cutting edge in contact with the bone. The osteotome is driven through the bone by pretty firm blows with the mallet. For this purpose I am in the habit of using a good sized carpenter's mallet. After each blow the instrument is moved from side to side at right angles to the bone, in order to prevent its becoming too firmly wedged in the bone. In dividing large bones it is well to use in succession osteotomes of two or three sizes. Section of the bone should be commenced with the largest osteotome. After a time the instrument becomes wedged and is difficult to move. It should then be withdrawn and the next smaller size substituted. A section thus made is more V-shaped. In performing cuneiform osteotomy a large open wound must be made and the operation is not subcutaneous. In performing either subcutaneous or cuneiform osteotomy strict antiseptic precaution should be observed; by this means we secure perfect immunity from inflammatory complication and a compound fracture heals as a simple fracture.

The patient should be profoundly narcotized before commencing the operation, as any movement of the limb produced by muscular contraction might disturb the relation of the knife or chisel to the bone and wound some structure not intended to be disturbed. The limb should then be rendered bloodless by means of an Esmarch's bandage. The limb should be thoroughly cleansed by means of soap, water and brush, shaved and then washed with ether in order to remove all fatty and sebaceous substance. It is then wrapped in a towel wet in a 1-1000 corrosive sublimate solution until ready for the incision. Having selected the site of the incision the bone should be reached as quickly as possible, by a sharp, clean incision, produced by a single stroke of the knife. Other things being equal, the line of incision should be parallel to the fibres of the muscles penetrated. Commencing with the largest and using the other sizes in succession, the incision thus made corresponds more nearly to a wedge. Under no circumstances should the osteotome be used as a lever to pry the bone apart as it will result in the breaking of the instrument.

The instrument should be grasped firmly in the left hand, the border of which rests on the limb, just above the wound. In this way the osteotome is under perfect control and any deviation which might inadvertently be given to it by the mallet can be instantly checked. (See Fig. 4.) The chisel should be made to traverse the deeper layers of bone in a fan-like manner. When the section of the bone is nearly completed the osteotome is withdrawn and the deformity rectified by fracturing with the hands the remaining bridge of bone. During the section the wound should be kept wet with 1-2000 sublimate solution,

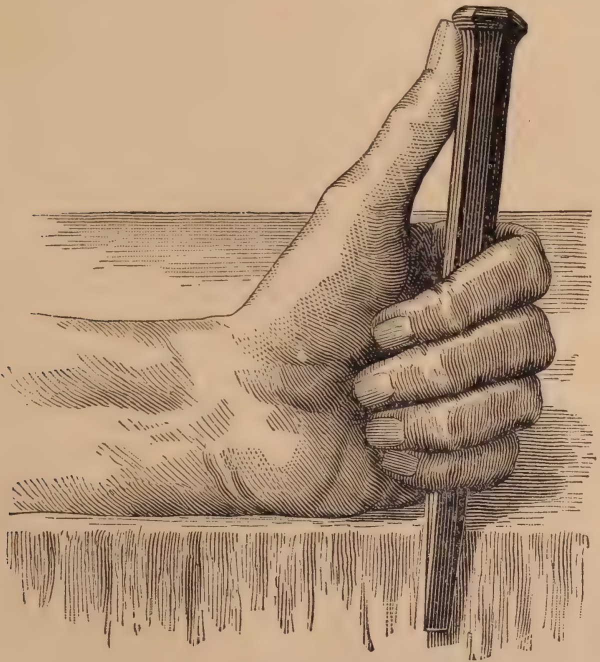

FIG. 4.—MANNER OF HOLDING THE OSTEOTOME.

or if there is any reason to fear that the antiseptics have not been perfect, on the removal of the osteotome the small nozzle of an irrigator may be introduced and the wound irrigated with the sublimate solution. After the deformity has been corrected, a wet sponge is secured over the wounds with a few turns of a roller bandage and the Esmarch bandage removed.

The sponge should remain in place while the other limb is being operated upon, or until the limb is ready to be dressed.

The hæmorrhage after a subcutaneous osteotomy is slight, I have never seen enough to cause any anxiety.

Cuneiform Osteotomy. In anterior curvature of the tibiæ and angular curvatures of the long bones a wedge of bone has to be removed in order to correct the deformity. For this purpose a chisel, with a straight cutting edge on one side, is used and the section is made through an open wound.

An Esmarch's bandage having been applied an incision is made over the crest of the tibia, parallel to the long axis of the limb directly down to the bone at the site of the greater curvature. The wound should be large enough to admit the finger and to enable the operator to see what he is doing. I have sometimes made the incision at right angles to the axis of the limb. While this facilitates the operation the hæmorrhage is apt to be greater. The periosteum should be divided in the same line with the incision through the soft parts.

It is sometimes recommended to make another incision at right angles to the first at its middle portions. This complicates the wound and it is of no material advantage. The periosteum should be well separated from the bone at the point where the wedge is to be removed. The size of the wedge that it is necessary to remove should be accurately determined before the operation, and marked off with a pair of calipers. When a large wedge is to be removed it is better to cut it out in several small pieces, first a small superficial wedge, then a shaving on each side until the desired amount of bone is cut out. The shape of the normal bone does not afford a guide in the removal of the wedge, as the shape of the distorted bone is greatly altered in its contour.

The deformed tibia will often be found greatly flattened from side to side. If the chisel be kept within the periosteum important soft structures cannot be injured. If the size of the wedge has been accurately calculated, when the deformity is corrected the cut surface of the bone will just come in apposition and may be held in position with a suture of strong catgut.

Dressing of the Wound.—After the circulation has been established, any bleeding vessels that are liable to cause trouble are to be secured with catgut ligatures. The edges of the periosteum are to be united with catgut sutures, a few strands of catgut placed at the angles of the wound for drainage, and the skin united. It has been sometimes recommended that a counter opening be made at the apex of the wedge and several horsehair-drains inserted.

Macewen treats the wound openly. The wound should be dusted with iodoform and covered with a strip of Lister's protective. The limb is then enveloped in a mass of sublimate gauze and absorbent cotton and neatly bandaged. After both limbs are dressed, a plaster bandage is applied and the limb is suspended, as in Fig. 5, a method which I have found of exceedingly great advantage in my practice.

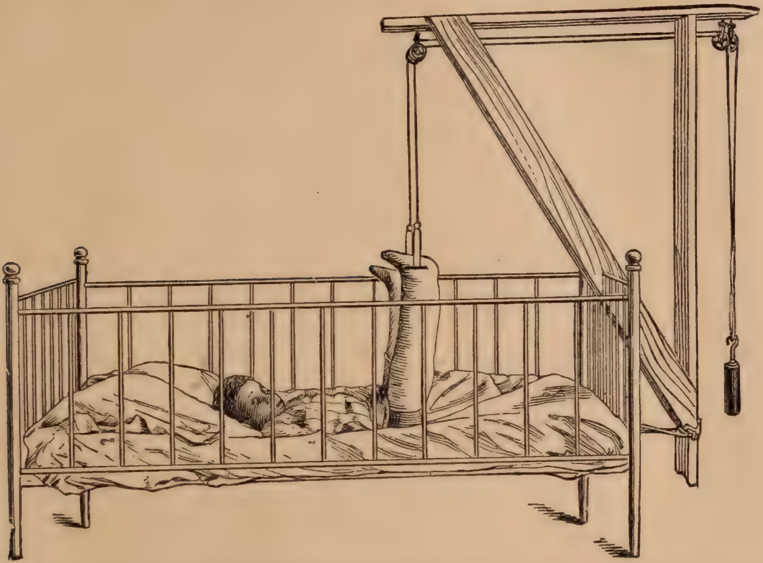

FIG. 5.—THE AUTHOR'S METHOD OF SUSPENDING THE LIMB AFTER OSTEOTOMY.

Macewen uses a splint consisting of a back, an outside and foot piece (Fig. 6), the padding being arranged so as to slightly over-correct the deformity. The essentials for success are the maintenance of the limb in a fixed straight position and the keeping the body at rest. I think these requirements may be more easily accomplished by the position which I suggest. The wound heals by first intention. The wound may be left for three weeks when the dressing should be removed and any slight remaining deformity corrected and the wound dressed for another three weeks. I believe, however, that the best results can be secured by placing the limb in a temporary splint for twenty-four hours when the dressing is removed and the limb put up in a permanent dressing and splint.

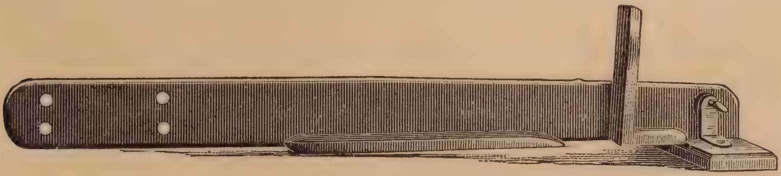

FIG. 6.—MACEWEN'S SPLINT.

It is often found that the first dressing becomes saturated and hardened by the dried blood and loses its antiseptic properties.

Cases Suitable for Operation.—Genu valgum or knock-knee may be defined as a deformity at the knee-joint in which a line drawn from the head of the femur to the middle of the ankle-joint passes outside the center of the knee-joints and in which the internal malleoli cannot be made to touch when the limbs are in an extended position.

Several different operations have been performed for the relief of genu valgum. The one which I think gives the best results is that of Macewen.

In performing this operation the incision in the soft parts is made on the inner side of the limb, at a point where the two following lines bisect one another; a line drawn a finger's breadth above the level of the upper border of the external condyle and in a line parallel to, and half an inch in front of the tendon of the abductor magnus. By making the incision directly down to the bone it is impossible to wound any important structures.

In July last I had the opportunity of seeing that master of osteotomy, Dr. Macewen, perform his celebrated operation for genu valgum. A small quick incision, with a few rapid strokes of the mallet, the chisel divided the superficial shell of the inner surface of the femur, then the chisel was rapidly driven in a fan-shaped direction into the cancellous tissue of the bone and the division completed. The other limb was likewise operated upon with the same degree of rapidity and precision. The deformities were at once corrected, the limbs dressed and immobilized in a splint.

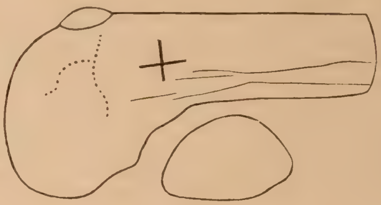

Fig. 7.—Diagram Showing Point where the Femur is Divided in Macewen's Operation.

Curvatures of the tibia may be lateral, anterior or anterolateral; the bending may be confined to the lower third of the bone, just above the malleoli, it may involve the whole bone, or there may be a short curvature at its lower third and then a long one above, or the bone may have one long anterior curve. An anterior curve above the ankle and a compensatory posterior curve just below the knee is a frequent deformity. This deformity frequently gives rise to a condition of hyperextension at the knee-joint.

In these cases when the deformity is slight it may be corrected by a simple osteotomy, but when the deformity is pronounced, a series of osteotomies, or the removal of several wedges is necessary to rectify them. In one case I performed as many as eighteen sections of bone on one patient.

In well marked cases of anterior curvature after removal of the wedge of bone it will be found that the deformity cannot be overcome until the tendo Achilles is divided subcutaneously.

I have had to perform tenotomy of the tendo Achilles in four cases. Out of a series of one hundred and fifty-eight sections of bone, in only two cases, in which cuneiform osteotomy was performed, the skin wound failed to unite owing to pressure of the splint, but in none of the cases has there been suppuration or non-union.

I append herewith abstracts of seventeen cases in illustration of the views presented.

CASE I.—Lena H., æt. 12 years. History of rachitis. Marked genu valgum. When standing with the internal condyles of the femur touching, the feet were separated a distance of twenty inches.

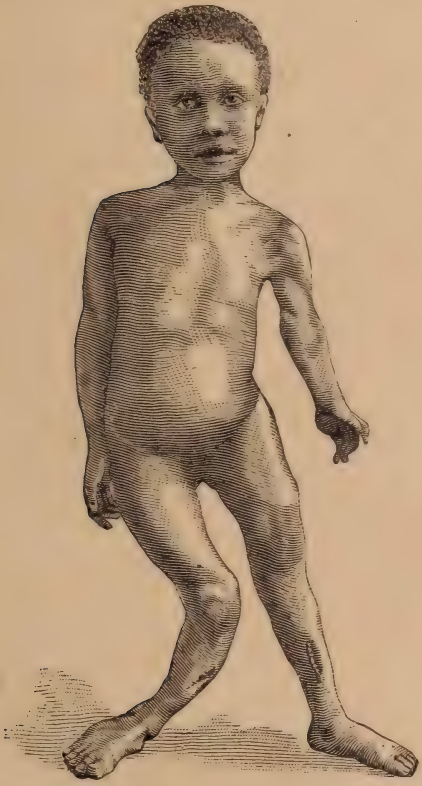

FIG. 8.—MULTIPLE RACHITIC DEFORMITY AFTER PARTIAL CORRECTION. From a photograph of Case IV.

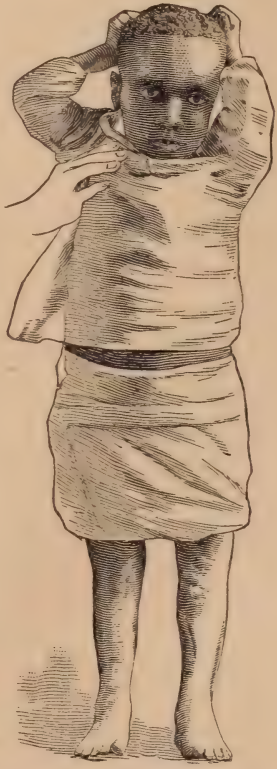

FIG. 9.—MULTIPLE RACHITIC DEFORMITY AFTER COMPLETE CORRECTION. From a photograph of Case IV.

Jan. 8, 1885, supracondyloid osteotomy of both femora. Recovery attended by no bad symptom; in three weeks the dressings were removed and the wounds found to be healed and the limbs in good position. At the end of the 7th week the patient was walking about.

CASE II.—Ruby H., æt. 8 years, sister of Case I. Has marked genu valgum of rachitic origin in both limbs. When standing the feet were separated a distance of 22 inches.

Jan. 8, supracondyloid osteotomy of both femora. Antiseptic dressing, plaster splints and suspension. Made an easy recovery. Redressed at the end of three weeks; wounds healed; limbs in good position.

CASE III.—James H., æt. 10 years. All the bones presented slight rachitic changes. In the forearm there was a marked posterior curvature of the ulna and radius.

On Feb. 5th, I performed subcutaneous osteotomy on both the ulna and radius, the limb was rectified and dressed with a plaster splint which was changed at the end of three weeks, when the wounds were healed; plaster re-applied for another two weeks.

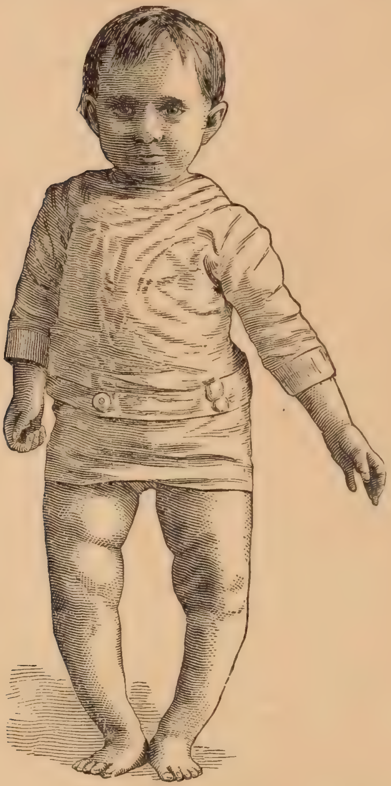

FIG. 10.—CASE OF BOW LEGS. From a photograph of Case viii.

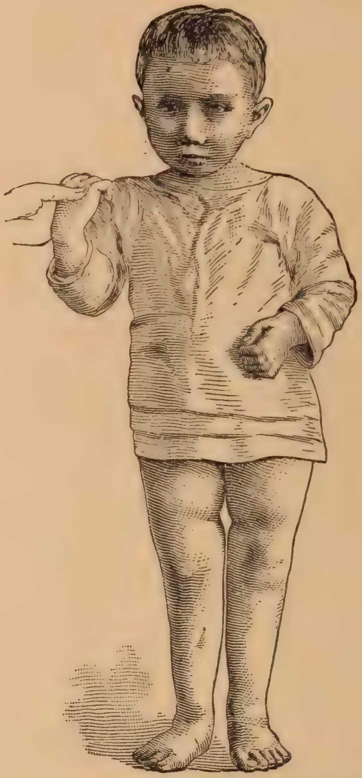

FIG. 11.—CASE OF BOW LEGS CORRECTED. From a photograph of Case viii.

These three cases belonged to the same family. The mother has had seven children, all of whom are rachitic.

CASE IV.—Eighteen sections of bone. Jane S., æt. 9 years, entered the hospital in April, 1886. She was in a poorly nourished condition, and presented marked rachitic deformities of all the long bones.

The femora present anterior and lateral curvatures with great depression of the internal condyles.

Below the knee, in both legs, there is a marked posterior curvature with outward rotation of both tibiæ and fibulæ. About the middle portion of each leg there is a marked anterior and inward angular deformity of both bones of the leg. Just above the ankle there is a marked anterior curvature of both limbs.

On April 24th I performed cuneiform osteotomy on tibiæ and fibulæ of both legs for the correction of the most marked deformities. The limbs were immediately put up in plaster splints; these were not removed for a period of three weeks.

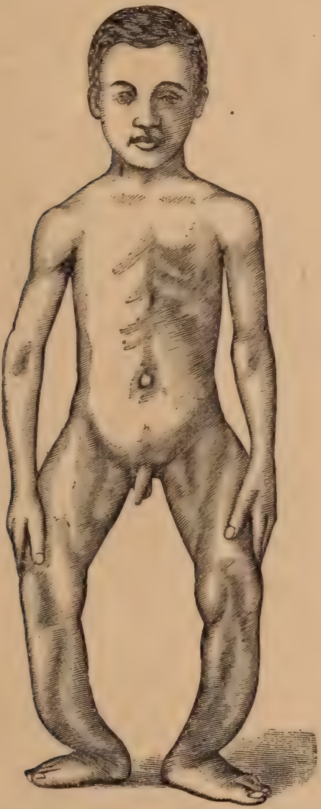

FIG. 12.—ANTERIOR VIEW OF MULTIPLE DEFORMITY. From a photograph of Case xii.

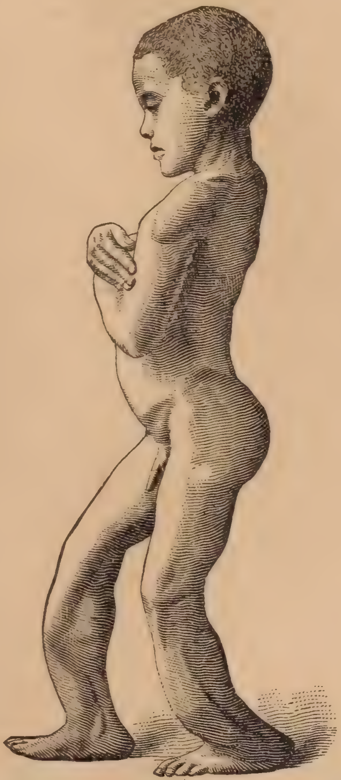

FIG. 13.—LATERAL VIEW OF MULTIPLE DEFORMITY. From a photograph of Case xii.

When the wounds were found to be healed and the worst deformity corrected, the plaster splints were re-applied for another three weeks, when they were removed and the patient was allowed to walk around. Fig. 9 shows the patient after these four osteotomies. Previous to the operation, on walking, the inner portion of the leg touched the ground.

Oct. 6 I performed Macewen's supracondyloid operation on both femora. Nov. 20th, cuneiform osteotomy on both tibiæ and fibulæ. Dec. 28th, cuneiform osteotomy of right lower tibiæ and fibulæ.

From all these operations the patient has recovered without the least trouble, and there has not been a particle of suppuration in either wound. May 8, 1887, cuneiform osteotomy of tibiæ and fibulæ above ankle. June 2, cuneiform osteotomy of upper left tibiæ and fibulæ, Oct. 12, cuneiform osteotomy, right tibiæ and fibulæ. Fig. 9 shows the patient in her present state; she is able to walk with ease and comfort and feels proud and happy.

CASE V.—Samuel C., æt. 9 years, presents a well marked example of rachitic deformity. The teeth are deficient. The femora have an anterior curvature and both internal condyles are much depressed.

The tibiæ present several marked lateral and antero-curvatures.

He walks with difficulty. There is also well marked lordosis. On July 12th I performed Macewen's operation on both femora. Dressed as usual.

Wounds found healed when the dressings were removed at the end of three weeks. Oct. 3d I performed cuneiform osteotomy on both tibiæ and fibulæ just above the ankle, for marked lateral curvature. Nov. 3, dressings removed, wounds healed. A month later the tibiæ and fibulæ above were operated upon for antero-posterior curvature.

CASE VI.—Lena F., æt. 3 years, was admitted Sept. 5th. She presented a well marked example of bow legs. Subcutaneous section of tibiæ and fibulæ of both legs at the upper portion was performed Oct. 5. Recovery normal.

CASE VII.—Frank P., æt. 8 years, presented a well marked example of genu valgum. On Oct. 7 I performed Macewen's operation on both femora; recovered without incident, splint removed at the end of five weeks.

CASE VIII.—Lillie D., æt. 3 years. Well marked example of bow legs, had been treated mechanically at one of the Brooklyn orthopædic dispensaries for over a year but without material benefit.

Nov. 18th, 1886, I performed osteotomy on both legs, dividing the tibiæ and fibulae. She made an uninterrupted recovery. Patient before and after operation is shown in Figs. 10 and 11.

CASE IX.—James Lowery, æt. 4 years, was admitted into the hospital with a marked curvature of both bones of the legs, especially prominent just above the ankles and below the tibial tuberosities. On Nov. 27, I made a section of the fibulæ and tibiæ of both legs.

The deformities at these points were corrected but a slight angular deformity remained just above the ankle of the left leg. The parents were, however, so well satisfied with the result of this operation that they did not consider another operation necessary.

CASE X.—Edna F., æt. 3 years. Entered the hospital March 2nd. An example of genu valgum. Macewen's operation April 14th. Splints were removed at the end of five weeks, when the limbs were found to be in good condition.

CASE XI.—Anna B., æt., 3 years. Entered the hospital May 16th. Outward curvature of the legs. Cuneiform osteotomy May 19th. Recovery uninterrupted.

CASE XII.—Frederick M., æt. 10 years. History of rachitis. All the bones presented marked evidence of rachitis. Teeth deficient and all the long bones deformed. The femora presented anterior and lateral curvatures with depression of internal condyles.

The tibiæ were flattened with anterior and lateral curvatures. Cuneiform osteotomy of both tibiae and fibulæ May 18th, 1887, with correction of angular curvatures above ankle. In order to straighten the limbs I had to tenotomize both tendons Achilles.

Wounds healed without suppuration.

Oct. 13th, Macewen's operation for the correction of genu valgum. Nov. 15th, cuneiform osteotomy for correction of anterior curvatures of tibiæ.

Patient discharged Dec. 30, with limbs in good position. Figs. 12, 13 and 14 illustrate his condition at different stages.

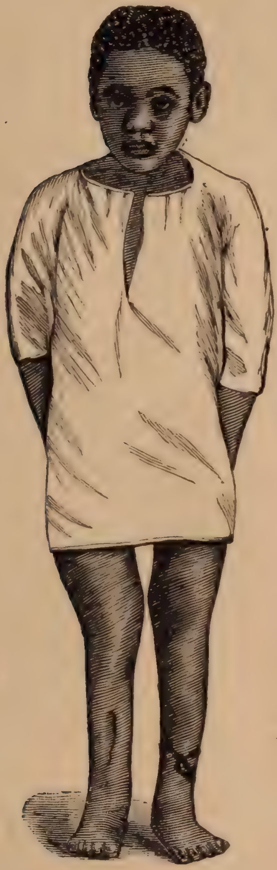

FIG. 14.—CASE OF MULTIPLE DEFORMITY CORRECTED.
From a photograph of Case xiii.

CASE XIII.—Brunetto C., æt. 4 years. Entered June 10th. Compound rachitic deformity. Cuneiform osteotomy of tibiæ and fibulæ of both legs June 30th.

Oct. 25th, Macewen's operation. Recovery.

CASE XIV.—John Binca, æt. 4 years, was admitted August 14. His condition at that time is shown in Fig. 15. On Oct. 18 I performed Macewen's operation on the femur. The result is shown in Fig. 16. Jan. 4, 1888, I performed double cuneiform osteotomy on tibæ and fibulæ of left leg. On Jan. 25 I performed similar operation on the right leg. April 6, cuneiform osteotomy of both tibiæ and fibulæ for posterior curvature.

CASE XV.—Harry B., æt. 7 years, entered Oct. 19. He presented marked genu valgum and tibial curvature. Nov. 11, supracondyloid osteotomy. Jan. 25, 1888, I made cuneiform section of upper tibiæ and fibulæ of both legs, after the manner of Volkmann, for correction of some remaining genu valgum and posterior curvature of tibiæ.

April 12, cuneiform osteotomy of bones of both legs.

CASE XVI.—Bessie L., æt. 5 years. When 2 years old was treated for muscular debility and infantile paralysis. Supracondyloid osteotomy Oct. 20.

CASE XVII.—Lucy N., æt. 6 years. Rachitic history, marked rachitic deformity of legs.

Nov. 5, supracondyloid osteotomy. Jan. 24, cuneiform osteotomy of both tibiæ and fibulæ for anterior curvature above ankle.

April 30, cuneiform osteotomy of both tibiæ and fibulæ at the upper part for posterior curvature.

Case XVIII.—James M., æt. 4 years. Rachitic history. Complicated deformity of legs.

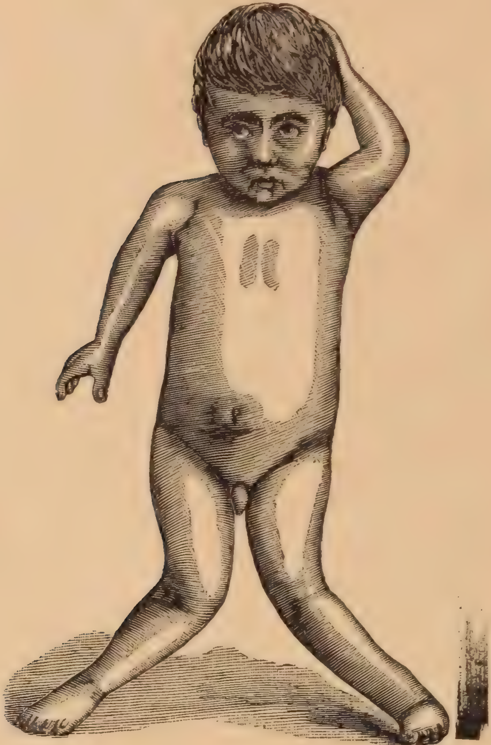

Fig. 15.—Case of Marked Genu Valgum. From a photograph of Case xiv.

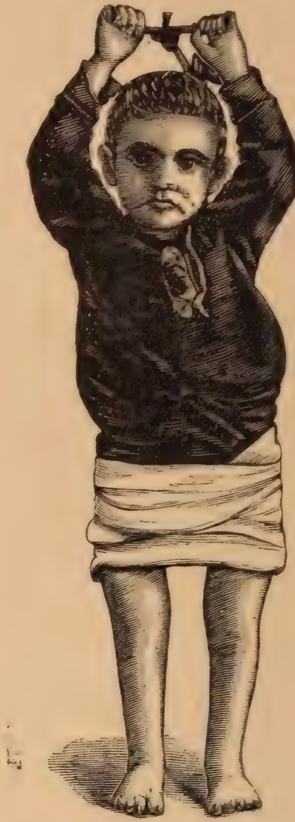

Fig. 16.—Case of Marked Genu Valgum Corrected. From a photograph of Case xix.

Nov. 11, I performed supracondyloid osteotomy on both femora. Jan. 24, cuneiform osteotomy of both tibiæ and fibulæ for anterior curvature.

April 30, cuneiform osteotomy of both tibiæ and fibulæ at upper third.

Case XIX.—Carrie —., æt. 7 years. Rachitic history. Deformity well marked in tibiæ and fibulæ. Illustrated in Figs. 17 and 18.

Feb. 3, I removed a large wedge from both tibiæ and fibulæ for correction of anterior and lateral curvature. In order to fully correct the deformity I had to tenotomize both tendons Achillis.

April 14, cuneiform osteotomy of tibiæ and fibulæ at upper third for anterior curvature.

Fig. 17 and 18, CASE XX.—Lizzie B. æt. 7 years. Rachitic history; different portions of the body presented marked deformities of a rachitic nature. The head was markedly elongated antero-posteriorly and flattened from side to side. Fig 19. The upper and lower extremities presented various deformities of a complex nature.

Feb. 26, double cuneiform osteotomy of both legs above the ankle for anterior and lateral curvature.

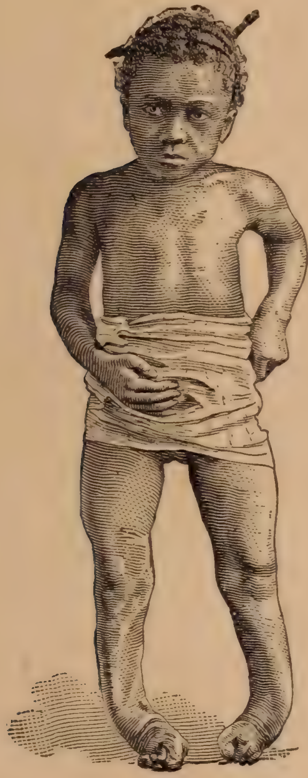

FIG. 17.—RACHITIC DEFORMITY OF UNUSUAL TYPE. From a photograph of Case xix.

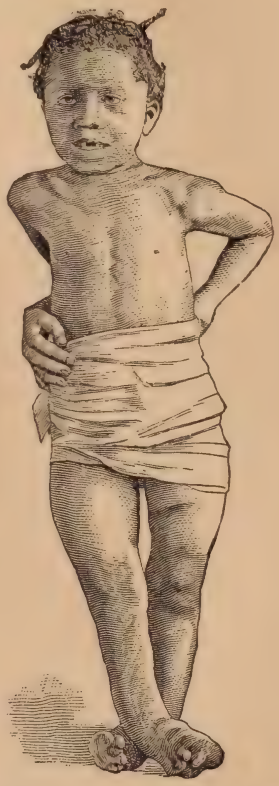

FIG. 18.—TYPICAL CONDITION OF TEETH IN RACHITIS. From a photograph of Case xix.

April 25, double supracondyliod osteotomy.

June 29. section of both ulnae and radii for posterior curvature.

CASE XXI.—Charles F. aet. 7 years, presented a very aggavated type of rachitic deformity.

Feb. 25, double cuniform osteotomy at the lower third of the legs for marked angular deformity.

The operation of double osteotomy by the supracondyloid method was done April 28.

June 29th, section of both ulnæ and radiæ for marked curve in the forearm. Recovery from these several operations was perfect.

Case XXII.—Elizabeth J., æt 12 years. Genu valgum with anterior curvature of tibiæ.

April 24, supracondyloid osteotomy.

June 19, section of both tibiæ and fibulæ.

Deformity corrected.

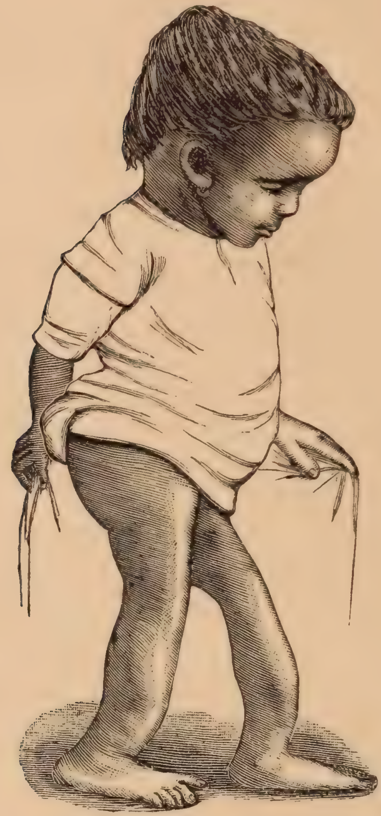

Fig. 19.—Multiple Rachitis Deformity, Showing Elongated Head. From a photograph of Case xx.

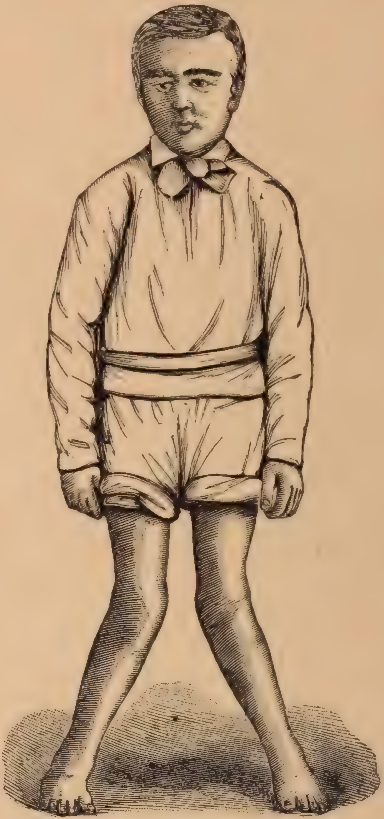

Fig. 20.—Genu Vulgum Existing in a boy Æt. 15 years. From a photograph of Case xxvi.

Case XXIII.—Posquet Sarronto, born of Italian parents, æt. 5 years. Rachitic history. Genu valgum. Mallorli separated ten inches; posterior curvature of tibiæ. Rachitic spine.

Jan. 4, supracondyloid osteotomy.

April 20, cuneiform osteotomy of both tibiæ and fibulæ. Plaster dressing. Recovery normal.

Case XXIV.—Wm. D. æt. 5 years, typical form of genu varum, Sept. 6, section of tibia and fibula of each leg at two points. Deformity, corrected; antiseptic dressing and plaster splint.

Dressings and splints removed at the end of eight weeks.

CASE XXV.—Tommy Fisman, æt. 5 years, exaggerated form of bow legs of marked degree. Sept. 10, section of both tibiæ and fibulæ at the upper and lower angles of the curvature. Antiseptic dressing and plaster suspension. Dressing removed at the end of eight weeks. wound healed and deformity corrected.

CASE XXVI.—Wm. J. æt. 12 years, a typical example of genu valgum, malleoli separated twenty inches. Fig. 20. Jan. 20, supracondyloid osteotomy. Plaster dressing and suspension. Temperature normal.

CASE XXVII.—R. M. æt. 4 years, genu valgum. Dec. 2, supracondyloid osteotomy. Plaster dressing and suspension. Dressing removed at the end of the seventh week.—*The Annals of Surgery.*

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ORIGINAL ABSTRACTS.

By KIRKLAND RUFFIN, M.D., Norfolk, Va.

THE RATIONAL AFTER-TREATMENT OF SURGICAL CASES. (From a paper in the forty-fifth volume of Guy's Hospital Reports by C. H. Golding-Bird.)

The author, in speaking of spinal cases, says that the patient is often compelled to wear some spinal appliance longer than is necessary, and that he is encouraged to hope for better results than he can possibly have. This encourages a dependence on others which is very injurious to his welfare. He considers that in such diseases a patient should be encouraged to face the "struggle for existence" and to cease to buoy himself up with false hopes.

In speaking of the collapse after operations, he says it is often caused by the anæsthetic being given so slowly that the patient becomes saturated, or not continuously enough so that the shock is physiologically appreciated. For such cases he recommends alcohol by mouth and rectum, and hot packing. To prevent sickness after operations, he gives a half to one pint of warm water, or salt and water, to make the patient sick outright, and then immediately gives half a small biscuit or other solid.

Anodynes are too frequently given after operation to allay pain; position, support, relief from pressure, should first be tried. When anodynes are necessary he considers none except opium, though he fears that in severe collapse, and finds alcohol much more useful. He prefers opium to morphine as the latter is more agreeable, more transient, and more apt to cause the habit. When pain is not the cause of insomnia, he uses only the soporifics; when the surface of the body is chilled and bloodless, and all the cavities engorged with blood, he uses the hot pack and alcohol or Dover's powders. Again, when the patient sleeps well in the early part of the night but wakes early, he often finds it due to weakness or exhaustion, and finds a little solid food useful; this is especially common among the aged. Chloral is to be preferred as a soporific to bromide of potassium, as the latter depresses the patient and upsets the bowels.

He gives the following formula for rectal feeding: Beef tea, ℥i; yolk of an egg; liq. pancreat. ʒi; wine, ℥ss; warm milk to ℥iii, with a pinch of soda. Drugs added if necessary or wine omitted. He injects enema at one squeeze and maintains pressure over anus for a minute after withdrawing the syringe. In severe collapse the patient can be most influenced by the skin and hence the value of the hot pack.

In speaking of peritonitis, the author says the patient does not die from the height of fever, but with cold extremities, passively suffused face, and a generally anæmic condition of the surfaces of the body, as in death from exposure. After perforation of the bowels, the condition is much like that of internal hæmorrhage, in fact, the patient really bleeds to death into his portal area. After abdominal operations the author relieves the congested peritoneum, not by giving cooled drinks or ice, but by giving the above mentioned enema, with opium and port wine. The wine allays the craving for fluids; the opium allays peristalsis and pain, and assists the skin to act.

NEW THERAPEUTIC INDICATIONS IN THE TREATMENT OF RENAL INSUFFICIENCY. By Dujardin Beaumetz. From *The Medical Age.*

The author says that while albumen in the urine in greater or less quantity enables us to appreciate congestion or acute inflammation of the kidney, still we no longer ascribe to it the paramount rôle in the pathogeny of these affections, but assign the chief importance to the non-elimination of the toxic principles of the economy. Nor is the quantity of urine voided in the twenty-four hours a criterion of renal insufficiency. By acute insufficiency he means a sudden suppression of the renal functions, by chronic insufficiency, a slowly developed suppression of the renal functions proportional to the gradual and winding march of renal degenerations.

In chronic renal insufficiency he calls attention to the following symptoms:—dyspnœa, so often confounded with asthma; dyspeptic troubles, with or without vomiting; the cerebral troubles (headache, slowness in indication, hallucinations, delirium, etc.); the cutaneous disorders—either an acute eruption like scarlet fever called exfoliative dermatitis, or a general pruritus which is so common that we should always examine the urine with great care of all old people who, without being the subjects of parasites, complain of general pruritus.

Of all the causes of renal insufficiency, he considers arterio-sclerosis, the most common. The disease of the arteries which is so frequent in the aged, the gouty, the arthritic, and the alcoholic, causes disturbance of the renal function in direct proportion to the amount of change in the malpighian bodies; and at the same time we find alterations of the myocardium and disturbance of the heart's rythm. Having considered these principles, we find that these are for the most part two great indications for treatment:—(1) the elimination by portions of the kidney remaining healthy and by emunctories vicarious with the kidney, of the toxic substances accumulated in the economy; and (2) to reduce to their minimum the amount of these toxines. The first brings into use the diuretics, purgatives, and sudorifics: the second constitutes an important chapter in alimentary hygiene.

If the fear of augmenting renal congestion by diuretics is justified in *acute* insufficiency, it is not so in chronic alterations, especially when due to arterial sclerosis. In speaking here of diuretics, he means only the cardiac diuretics for he considers that the saline diuretics can only have an injurious effect. He employs all the cardiac diuretics and often finds it useful to vary them. He uses digitalis, spartein, strophanthus, caffeine, adonis or adonidin, and even convallaria. He considers digitalis the most useful, but when badly tolerated he uses strophanthus and spartein. He had not found that strophanthus irritated the kidney. When there is nausea and vomiting, he gives caffeine hypodermically. He does not hesitate to declare the superiority of purgatives over diuretics and he uses both classes of remedies at the same time,producing two or three abundant stools per day.

He does not recommend the elimination of the toxines by the skin by means of vapor baths and pilocarpine on account of the exhaustion they cause. In the itching of the skin he gets the best results from scrubbing the body with hot water and soft soap followed by brisk dry rubbing.

He now takes up the capital point of his subject; namely, the prevention of the formation of the urinary toxines. These come from two sources:—(1)the ptomaines introduced in the food or resulting from imperfect digestion and food decomposition, and (2) the leucomaines which are furnished by the cells of the organism.

Of the foods which *contain* or *furnish* the least quantity of ptomaines he considers that the vegetable and starchy substances have the first place, to which he adds milk and eggs. The eggs should be thoroughly cooked, and occasionally, when milk is not tolerated, he allows some light white wine well diluted with some of the alkaline mineral waters, but strictly forbids the stronger wines and distilled spirits. He forbids all animal foods (including fish, mollusks, and crustaceous), but occasionally allows pork.

To oppose the production of ptomaines, he corrects all digestive troubles. He finds following formula very useful:—℞ Salicylate of bismuth, magnesia, bi-carbonate of soda āā 10 grammes. To be made into 30 capsules, one capsule after each meal. Instead of bi-carbonate of soda he sometimes uses napthol in the same dose.

Lastly, to lessen the formation of leucomaines produced by the organism, he insists that his patients avoid all over-fatigue, and especially exhausting labor of all kinds.

HIP-JOINT DISEASE. By Noble Smith, from *The Lancet.*

The author tabulates the treatment of the hip-joint disease as follows:—1. The performance of excision in advanced steps of the disease. 2. Excision in the early stages. 3. Operative treatment other than excision.

1. He supposes no one doubts the desirability of excision when all other measures have been efficiently applied and have failed to stop the local disease, and especially in cases where there is a sequestrum of necrosed bone. The question in his mind is what the efficient application of all other methods consist in. He thinks that too often a costly splint is applied and the surgeon rests satisfied when there is still pain, showing that there is not absolute fixation. He considers the ultimate results from excision not much, if any, better than ankylosis after prolonged rest.

2. He does not approve of excision in the early stages with the object of ridding the patient of the focus of tuberculisation as rapidly and completely as possible, for the following reasons:—1. Because it is not proven that every case of hip-joint disease is the result of tubercular deposit; 2. because he does not believe that general tuberculosis necessarily follows tubercular disease of a joint; and 3. because Mr. Croft's statistics show a mortality of 15 per cent. "due to tubercular disease some time after operation, and not as a consequence of it." The author believes that a vast majority of cases can be cured without any operation whatever.

3. With regard to other operative treatment he thinks, while excisions and scraping the joint have been freely discussed, that a less formidable measure has not received the attention it deserves. He has had most satisfactory results from *bone drilling* in the neighborhood of the diseased joint; and from his experience, he believes that, in conjunction with absolute fixture of the joint, it is an operation which should be performed without delay in every case where the joint is painful on gentle pressure. The good results are most marked if the parts are hot to the hand and visibly swollen. The plan he pursues is to puncture down to the bone (greater tochanter) with a scalpel, incise the periosteum for one third or one-half an inch, and then drill for half an inch or more into the bone with a one-tenth, or one-eighth of an inch drill. The subsequent treatment of the wound depends upon the condition of the part involved, but in early cases the wound may be closed at once.

STOMACH-WASHING IN INFANTS. By A. Seibert, M.D., from the *Archives of Pediatrics.*

The indications for this treatment are the following:—

1. In dyspepsia of infants, a condition characterized by the regurgitation of part of the child's food soon after each meal which occurs with nausea. These nurslings are called "spitting" children. In some cases we may effect a cure by properly regulating the diet, but some will prove obstinate in which cases sometimes a single

stomach-washing will effect a cure. By this means he often brings up lumps of caseine which have been in the stomach for days causing a great deal of irritation. Of such cases he has treated twelve, by washing out the stomach, with the greatest success, only two requiring a second washing and one a third. He often adds to this treatment a large soap, water and oil enema to cleanse the large intestines.

2. In acute gastro-intestinal catarrh, or cholera infantum, this treatment, especially if carried out early, will save the life of the child. It cleans the stomach of remnants of decomposed material, of the germs of decomposition as well as the results of this process, and, in particular, the tyrotoxicon of Vaughan. He treated twenty-nine cases in this way during last summer—ages varying from three to eighteen months. Only four of these cases died, and two of them—twins—passed out of his hands after one visit.

3. In cases of chronic catarrh of the alimentary tract, stomach washing has proved to have given the best results of any form of treatment. Cases which have withstood all kinds of diet, all drugs, and been diagnosed as atrophy, marasmus, tuberculosis of the intestines, etc., have been cured by this treatment.

The reason for this is evident: Remnants of food are retained in the stomach (caseine may remain for days, proven by direct experiment); decomposition and fermentation is constantly going on, and every additional food supply is immediately affected. The decomposing food is carried along the intestinal tract and keeps up the pathological condition of the mucous membrane. He had treated fifty-two cases in this way, and every one with perfect success. Two-thirds of the cases were intense and of long duration. In a few cases he washed the stomach out six times, but in the majority only twice.

He uses only plain warm water which has been boiled and a rubber catheter for a stomach-tube. He washes out the stomach two or three hours after eating when it is as empty as possible, and continues to wash it until the water is returned quite clear. He has never seen any bad results or accidents follow this procedure.

A Lecture on Cancer of the Tongue and its Removal. By Richard Barwell, F.R.C.S. From the *British Medical Journal*.

Mr. Barwell considers that all the changes in the mucosa of the tongue, which are due to inflammation, are apt to lead, when subjected to long-continued irritation, to malignant disease. Therefore a patient with chronic glossitis should avoid everything which irritates the tongue—such as smoking, highly-spiced foods, etc.; bad teeth should be extracted, and mild measures in treatment should be employed. Nitrate of silver and sulphate of copper are especially to be avoided; the mouth should be washed after each meal; boracic acid or bismuth lotions may be used. When malignant disease has developed he urges the importance of prompt action. The diagnosis between epithelioma and syphilitic ulceration is sometimes very difficult, and he warns against taking too much time to be certain of the diagnosis.

His method of removing the tongue is as follows: The instrument, required are a gag, a small scalpel, two rather long Liston's needles, two *écraseurs* with soft iron wire, and a guide. The usual precautions for keeping the mouth open and drawing forward the tongue are taken; the head is held strictly straight and thrown slightly backward, and the surgeon having located the hyoid bone, makes an incision about three-eighths of an inch long, exactly in the middle line, immediately in front of it. This incision exposes the raphi of the mylo-hyoid, which is divided; the genio-hyoid and genio-hyo-glossi are separated. Now a Liston's needle armed with ligature silk is passed into the wound, carried on the left side beneath the mucous membrane, through which it is thrust on a level with or behind the last molar tooth; in withdrawing the needle one end of the silk is left in the mouth. Another armed needle is now passed on the right side in the same way, save that the loop is left in the mouth. The *écraseur* wire, with its end sharply bent into a hook is now tied to the end of the first-named piece of silk which comes out just above the hyoid bone, and pulled by traction on the other end of the silk into the mouth. The silk is now cut away and the hook of the wire caught in the loop of the other silk, is drawn out of the mouth through the supra-hyoid wound. Thus has been cast around the tongue, as far back as one will, the loop of the *écraseur*, but to prevent any chance of slipping forward he passes an instrument as a guide, rather larger than an eyeless Liston's needle, into the wound through the middle line of the tongue, guiding it in any chance direction by the left forefinger placed on the tongue at the spot selected. This instrument an assistant holds, while the surgeon, turning the *écraseur* screw, separates the tongue posteriorly. As soon as the wire comes out of the supra-hyoid wound the loop of another *écraseur* is passed well down in the incision just made, and being set to work completes the separation of the tongue, which is taken out between the teeth. Two points require notice: the armed needles are passed inside the trunk of the lingual arteries as they course upward on the side of the tongue—then there is no chance of bleeding in the first cut of the *écraseur;* the nerves (linguo-gustatory) generally resist division, and will afterwards be seen hanging out the mouth like frayed-out threads; they should be taken up in forceps and snipped off close to their emergence from the soft parts. A drainage-tube should be kept in the supra-hyoid wound for three or four days, and a piece of absorbent wool placed under the chin, which is all the dressing required. The advantages of this method are these: 1. It is almost bloodless; the second cut should be made gradually as it contains chiefly the vessels of supply. 2. The sensory nerves are divided at their exit from the groove of the jaw, therefore the stump of the tongue is insensitive to pain. 3. The wound left is infra-dibular, the mouth of the funnel being at its lower part, so that the cavity is completely drained and easily kept clean.

The patients are immediately relieved from a tender, and perhaps painful, sore on the tongue and as the stump is not painful they are soon able to eat and talk. He records thirteen cases operated on by this method without a single death, and with immediate improvement in all.

A NEW METHOD OF TREATING FRACTURES OF THE PATELLA BY SUBCUTANEOUS LIGATURE WITH SILK—From the New York report of *The Canada Lancet.*

This method is advocated by Dr. Lewis A. Stimson. The great desideratum to be obtained in treating these fractures is some simple appliance whereby the fragments may be held in close apposition, and at the same time one which will not interfere with the nutrition of the patella by pressure on the articular arteries.

For sake of description we will suppose the patella to be possessed of four angles. With an ordinary scalpel four incisions are made through the skin and subcutaneous tissues only, corresponding to the four angles, but a little below the lower and a little above the upper ones. Then a straight Hagedorn needle armed with a No. 14 heavy braided silk ligature, which has previously been rendered perfectly aseptic by being boiled, is introduced into the lower and internal incision and carried deeply through the ligamentum patellæ and brought out at the inferior and external incision. It is then re-introduced and carried deeply through the tendon of the rectus and crureus muscles and brought out at the superior and internal incision. It is again re-introduced and carried beneath the skin along the internal border of the patella and brought out at the inferior and internal incision. Strong traction is now made on the silk and the two ends are firmly knotted deep in the subcutaneous tissue. During this part of the operation considerable force may be used so as to bring the fragments closely together. The wounds are then dressed antiseptically and a straight posterior splint applied for about three days. The success of the operation depends on having the wound aseptic. After three days the dressing is removed and the wounds will be found to be healed and a plaster of paris dressing is applied for about two weeks, by the end of which time the fracture is generally firmly united. The silk ligature is seen no more but probably acts as a firm splint and explains why we can dispense with the plaster of paris dressing so early.

NEW METHOD OF EXTRA-ARTICULAR SUTURE OF THE PATELLA. By A. W. Mayo Robson. F. R. C. S. From *The British Medical Journal.*

The method, which is extremely simple, consists in passing a steel pin through the aponeurosis immediately above the upper fragment, then one through the aponeurosis immediately below the lower fragment—that is, through the upper part of the ligamentum patellæ. The two fragments are easily drawn into apposition by a ligature over the pins on either side. The projecting ends of the pins are cut off with wire nippers, a layer of antiseptic gauze is placed over the projecting pins and ligatures, and the limb is placed on a posterior splint, which is allowed to stay on a month. If there be much effusion of blood in the knee, the joint is aspirated.

Carlo Ruata, of Perugia, gives a striking account of the prevalence of typhoid fever in Italy. Every year, he says, this disease attacks from two hundred thousand to three hundred thousand individuals, and causes a mortality of twenty-seven thousand seven hundred. One-third of the persons in Italy who reach the age of forty-five are attacked with typhoid fever. In several districts over three per cent. of the inhabitants die from the disease annually. The extraordinary prevalence of typhoid fever in Italy can be better realized by a comparison with the rate in this country. Massachusetts, with a population of two millions, has annually less than one thousand deaths from typhoid fever. Italy, with a population fourteen times as great,has twenty-seven times more deaths from this disease.—*Northwestern Lancet.*

Pelvic Cellulitis.—A. J. C. Skene, M.D., in *B'lyn Med. Jour.* —The following are my conclusions:

First, pelvic cellulitis, uncomplicated, occurs frequently.

Second, sub-peritoneal pelvic hæmatocele should be recognized as one of the causes.

Third, aspirating may be employed before and after suppuration, with advantage in suitable cases.

Fourth, abscess in the cellular tissue of the pelvis should be opened from the vagina when the conditions are favorable.

Fifth, laparotomy is advisable when the vaginal wall is not closely adherent to the abscess sac.

Sixth, laparotomy should be made when a pelvic abcess opens into the bladder and suppuration continues.

Seventh, cellulitis may extend to the psoas muscle and give rise to psoas abscess.—*The Archives of Gynæcology, Obstetrics and Pædiatrics.*

Laceration of Perineum.—Dr. W. T. Lusk, in *Can. Med. Jour.*, holds that laceration of the perineum during labor is, with a healthy vulva, never inevitable but always to be avoided. He lays great stress upon a slow descent of the head. By preventing the head from coming out quickly the parts will slowly dilate and relaxation is gradually accomplished. This accords with the writer's experience. Cases of rupture occur mostly in primiparæ and quite commonly as the result of the use of forceps. It is in this class of patients that there is the greatest temptation and the greatest stress brought to bear upon physicians to resort to instrumental aid, The result is very often a tear of the imperfectly relaxed tissues. The impatience then of physicians in first labors is to be deprecated. It may be brilliant and it certainly will enhance the doctor's reputation and the gratitude of the patient who is experiencing for the first time the terrible throes of child-birth, to be able to give her quick relief, but the practice often comes under the head of "meddlesome midwifery." It is astonishing how much stretching the perineum will bear. It seems sometimes as though the attenuated tissues would certainly yield the next moment before the enormous pressure of the oncoming head, but wait a little and it passes without injury to the soft parts. The old-fashioned support of the perineum which is so much decried by modern obstetricians may be of use, then, in two ways; 1, by delaying the descent of the head, permitting the more thorough stretching and relaxation of the tissues. 2, by keeping the occiput well against the symphisis pubis and away as much as possible from the point of danger.—*The Archives of Gynæcology, Obstetrics and Pædiatrics.*

THE HOT-AIR TREATMENT OF TUBERCULOSIS.—A supplement to the *Berliner Klin. Wochenschr.*, of March 11th, contains a recent address, by Professor Kohlschütter, on Weigert's hot-air treatment of pulmonary tuberculosis, given at a meeting of the Aertzte-Verein, in Halle, on February 20th. The fact that this treatment has already become a subject of comment by the newspaper world did not deter the speaker from examining the question scientifically. It is known that tubercle bacilli are peculiarly susceptible to influences of temperature; their vitality is lowered by a temperature of 101.3° F., and they are killed by a temperature of 107.6° F. To breathe hot-air continuously for long together is impossible—only one of the speaker's patients could do so for as long as an hour—and the beneficial action of hot air in the above sense must be on the well-known principle of intermittent gradual sterilization, the germs being killed off in successive crops as they develop. Weigert, in attempting to apply this clinically, showed that extremely hot dry air can be breathed without injury. In Weigert's apparatus (which may be procured from A. Meissner, 71 Friedrichstrasse, Berlin), the thermometer shows a temperature between 480° and 570° F., and, although the air actually inspired is doubtless not so hot as this, it is hot enough to cause the expired air to have a temperature of 60° C. (140° F.). In a particular case of Professor Kohlschütter's, the following effects were observed: in seven weeks after inhalation, twice daily, the chest-girth increased from 89 to 95½ centimètres, and a pleuritic exudation in the left side was absorbed. Crepitation and dullness were replaced by normal physical signs, and good breath-sounds were heard over both lungs. Careful examinations of the sputa showed that the bacillary appearances were remarkably altered. At first the bacilli were numerous, and more or less uniformly scattered; subsequently they were found only in groups of three or four, and were far fewer. At a later stage they had all but disappeared. The temperature of the body rises about the third of a degree (F.) after each inhalation, but soon subsides. The pulse frequency showed a difference of only five, as counted before and after each inhalation. The respirations became deeper and slower; the patient in question—several others were treated—at last could do with seven respirations per minute; this is ascribed to the difficulty of inspiring through long tubes. The previous dyspnœa was lost, and more exercise could be taken. The cough at first increased a little, the expectoration considerably; but, at the date of the address, both were lost altogether. The bodily weight had increased from 73 to 73.57 kilos. (nearly 2 lbs.). The author expresses himself as well satisfied with the results so far, and thinks this method of treatment worthy of more extended trial.

CLINICAL RECORDS.

CLINIC—By T. Gaillard Thomas, M.D., Professor of Gynæcology at the College of Physicians and Surgeons, New York, etc.

This first patient has been married ten years, is a native of New Jersey, and was perfectly well up to the birth of her last child—which event occurred two years ago. As you look at her you are at once struck by two facts: first, she is excessively pallid, in the next place she does not impress you as a woman in perfect health. These are all that you observe by simple inspection. I will ask her some questions. How long have you been sick? Ans.—Two years. This is the old, old story; two years ago had the last child and ever since has been unwell; this is a very common fact, and you will meet with it again and again. At the time of her last birth she had a severe hæmorrhage and the physicians in attendance expected her to die; at that time she did not faint, but ever since has been subject to fainting spells. She menstruates every month and is unwell for two weeks; this fact alone will explain her pallor. There are only twenty-eight days in the menstrual cycle, so that she has no time to recuperate, and as she loses a great deal of blood, she naturally gets very weak.

She suffers from cerebral anæmia; the supply of blood to the brain is small; the result of this is sometimes serious, at times she has vertigo and faints away; it was only last night she fainted, so she may be said to suffer from syncope. Syncope is a temporary cessation of the heart's action, and is secondary to something else; it is always directly due to cerebral anæmia, so that the brain does not act properly on the heart through the nervous system. During menstruation she suffers from great pain; every pain is like a labor pain; this, however, does not end in the expulsion of anything. Suppose this patient comes to you for treatment, your first case of menorrhagia; her pulse is now over 100; if a patient like this comes to your office the first thing to do is to find out the cause, as in this case; the treatment is simple. If you cannot find out the cause do not treat the case. Let me now tell you some of the causes of menorrhagia and metrorrhagia; not all by any means, only a few, so that you may be enabled to think out the remaining causes for yourself.

CAUSES OF MENORRHAGIA AND METRORRHAGIA.

The difference between menorrhagia and metrorrhagia is this: A woman ought to menstruate from four to eight days; if she menstruates more, then menorrhagia begins. If she flows between the menstrual periods, then it is metrorrhagia, or uterine hæmorrhage.

I. *Those due to the blood state:* as hæmophilia, scorbutus, spanæmia, and all causes due to depraved blood state and blood-vessels; this is one of the most important causes. Uterine hæmorrhage is now known to be due to rupturing of blood vessels and not to mere sweating of blood, as was formerly supposed.

II. *Solutions of continuity:* as (1) Lacerated cervix is a very common cause. (2) Carcinomatous and sarcomatous ulcers; hæmorrhage from these is very free. If a woman has ceased menstruating for five years and then she starts to flow freely every month, nineteen chances out of twenty there is cancer, and on examination the mystery is cleared up.

III. *Any abnormal growth connected with the uterus.* An example is a uterine fibroid, either subperitoneal, interstitial, or submucous; also polypi. Other growths inside of the uterus will cause it, as the following case illustrates. The wife of a clergyman living outside of New York, expected to be confined last November; she went to bed, the nurse was engaged, but, on examination, the physician found the uterus only slightly enlarged. I was called in consultation, and after carefully examining the case, came to the conclusion that it was one of moles; the fœtus had died and membranes had clung to the uterus and continued to develop. I emptied the uterus of its contents and the patient is now entirely well. Under this head is included fungoid growths of the uterine cavity, which is a very common cause.

IV. *Anything that keeps up uterine engorgement.* As all flexions; flexions are very likely to occur just after the parturition, when the uterine tissues are very soft. The various forms of endometritis, all ovarian irritation, may be accompanied by menorrhagia. If you take a rabbit, etherize it, lay open the uterus so that you can observe the endometrium, then with a pair of forceps, crush the ovaries, the lining membrane of the uterus will be seen to become intensely engorged with blood. Again many women think that it is a virtue to have a movement only once a week; these women constantly suffer from menorrhagia, this causes a varicose condition of the uterine veins. Many of the most remarkable cures I have performed, have been done by attention to the simple rules of alvine evacution. All ovarian tumors, from pressure effects, may cause menorrhagia. To recapitulate, the causes are—

I. Blood state.
II. Solution of continuity.
III. Abnormal growths.
IV. Congestion of uterus.

Now, to find out the cause of this patient's menorrhagia. She tells us that she was perfectly well up to two years ago. On examination, I found the cervix lacerated, but this is not enough to account for the hæmorrhage; on pushing the finger further up in the anterior fornix, I feel a short anteflexion. A diagnosis is alway a probability, never a certainty. During her last confinment, the cervix was torn, involution went on slowly, patient got up too soon and went about her duties, anteflexion took place, the uterine veins were interfered with, and fungoid growths were formed in the uterus; this is all that happened, yet it is enough to cause all the trouble.

Treatment.—This patient can be entirely cured by simply going backward and correcting each step in the pathological process. Administer an anæsthetic and place the patient in the dorsal decubitus, and thoroughly douche the vagina with 1-2000 bichloride solution; then take a uterine sound and gradually straighten the uterus. Then with a blunt curette (even this is not necessary, for while out of town, I have often curetted a woman with a hairpin and a pair of forceps), carefully scrape out the fungoid growths, and be sure they are all scraped out. Then take some cotton on a pair of long forceps and swab out the uterus with a 1-1000 bichloride solution, preferably, irrigate with an intra-uterine catheter. Next, pare the edges of the lacerated cervix and close it with silver sutures. Take a perforated intra-uterine glass stem and place it in position, so as to keep the uterus perfectly erect. Keep the patient in bed, put her on small doses of ergot to contract the uterine tissue and vessels. In two weeks take out the sutures, but the stem may be left in for some time, and you will find that gradually she will menstruate for only five or six days. Tell them that the first menstruation is always profuse. Instead of this woman looking pallid and thin as she does now, in six months she will have some color, weigh fifteen to twenty pounds more, and have no further trouble from syncope.

In all probability if this patient, with her pallid looks and anæmic basic murmur, had gone to an ordinary practitioner, nineteen cases out of twenty he would have given her quinine and iron. Both these medicines are powerful tonics and act as veritable poisons to patients suffering from menorrhagia; in a menorrhœa they should always be given.

DOUBLE EQUINO-VARUS.—DISEASES OF THE HIP JOINT.* By J. E. Moore, M.D., Professor of Orthopedic Surgery.

Gentlemen:—I bring before you to-day this little one to show you the result we have obtained from treatment. You will remember that a few weeks ago this child, who was but 9 weeks old at that time, was brought before you with a very severe double equino-varus. You have seen every step in the treatment. First, I introduced a small tenotome deep into the inner side of each foot, cutting every tissue that offered resistance to the placing of the foot in its normal position. I did not cut the integument, because it stretched so readily that it was not necessary. I should not hesitate to make an open incision if it were necessary, but I have never found it necessary. After the cutting, I overcame the varus by manual force and applied a plaster-of-paris dressing immediately, holding the feet in the improved position. You must not think that in a given variety of clubfoot you are always obliged to cut certain tendons. As a rule, in this variety the tendons of the tibialis anticus and tibialis posticus will be found tense and require tenotomy. The only absolute rule I can give you is to cut everything that prevents you from overcoming the deformity. You will remember that at this time, although the equinus was very marked the tendo achilles was not touched. It is a very easy matter to overcome the equinus in these cases, and it requires, as you have seen, but a few seconds' time.

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*Extracts from a lecture delivered at the University of Minnesota, Feb. 5th, 1889.

The varus is not so easily overcome, and it takes a very much longer time. I believe that much time is gained by leaving the equinus to be overcome at a later date, for the tense tendo achilles offers a firm point of resistance, thus enabling one to unfold the varus.

This first dressing was allowed to remain for one week, when it was removed, and marked improvement noted. Plaster was again reapplied until, upon removal, the feet remained in a straight line with the leg. Two weeks ago I cut both tendo achilles and at once placed the feet in normal position and applied plaster. To-day you see the feet are in perfect position. I must warn you, gentlemen, not to discharge a patient as soon as you have overcome the deformity, for there is always a great tendency to relapse, and after relapse a case is more difficult to treat successfully than it was originally. I shall in this case apply a light sole leather splint, which the mother can remove at any time to bathe the parts and employ massage. This child is now so young that by the time it begins to walk no apparatus will be needed. You have seen this perfect result brought about in a very short time and without apparatus. I wish once more, gentlemen, to warn you against using a clubfoot shoe in the treatment of these cases. I am sure clubfoot shoes have done more harm than good in this world. The prevailing method of treatment among amateur orthopedic surgeons is to cut the tendo achilles and apply a clubfoot shoe, expecting to overcome the varus in this way.

This almost invariably results in failure and disappointment. The parents become discouraged, and the child is left a cripple for life. You can, if you wish, use one of the many varieties of clubfoot shoe to prevent a relapse after you have overcome the deformity, but do not try to overcome the deformity with it.

In my last lecture I finished speaking to you of joint diseases in general, and I wish now to call your attention to diseases of special joints, and shall begin with the most important of them all, the hip. The term "hip disease" is no doubt familiar to you all, and it will do very well when speaking to the laity to use this term, but when speaking to the profession you should never use it, because it is unscientific. It is too much like the terms "liver complaint" and "stomach disease." The most common disease of the hip, the one called "hip disease" before we knew anything of its pathology, begins as an ostitis, and unless prevented by proper treatment becomes eventually an arthritis. This ostitis begins, as a rule, at a point in the femur near the epiphysial line, and is tubercular in character. It is worthy of note that the disease begins most frequently at a point where the joint is subject to the greatest and most constant pressure. I have said that this inflammation is tubercular in character, but I do not wish you to take my word for it. Read carefully recent authorities on pathology, and I am satisfied that you will agree with me. I will cite but one instance as proof of this statement.

Volkmann found the tubercle bacillus in all but a few of 150 excisions of the hip.

In all the older works on surgery and in some of more recent date you will find much written about scrofula and struma, but I advise you to pay very little attention to them, for they are terms that have never been very clearly defined, and you will not need them. These terms have been used to cover up our want of exact knowledge in pathology. It is pretty generally accepted now among orthopedic surgeons, that what has been called scrofulous disease of the joints is tubercular inflammation. The causes of tubercular inflammation of the hip may be divided into predisposing and exciting. Many writers and teachers have believed and do believe that the great and often the only cause of "hip disease" is an inheritance known as the scrofulous diathesis. I do not believe that this belief is founded upon fact, for this disease occurs in the high and the low, the rich and the poor, the healthy and the unhealthy. It is true that in many, probably a majority of cases, a history of some "strumous trouble" can be found in the family of a child afflicted with the disease in question, but this only proves that chronic inflammations are very common, and not that they stand in the relation of cause and effect, for, on the other hand, many instances occur in which this disease is developed when the family history is perfect. It is undoubtedly true that when two children are subject to the same exciting cause one will develop an ostitis of the hip and the other will escape, but no man can tell beforehand which child will have the deformity. I believe, therefore, that we really know less of the predisposing causes of this disease than we have been taught to believe. I also believe that this predisposition is not always the same in the same individual. In other words, an exciting cause that will at one time be followed by a chronic joint disease, will at another time in the same individual be followed by no serious consequence whatever. The most common exciting cause is injury. In many instances a direct history of traumatism will be given, but in many others no such history can be traced. While, therefore, it is possible that traumatism is always an exciting cause it cannot be proven. A fact worthy of note is that this disease is very often developed in the liveliest and most stirring child in the family, the one, in fact, who from his propensity to climb fences and the like is most likely to meet with an accident.

125 S. 4th St., Minneapolis.

REVIEWS.

THE OPERATIONS OF SURGERY. A Systematic Handbook for Practitioners, Students and Hospital Surgeons. By W. H. H. Jacobson, M. B., F. R. C. S., Assistant Surgeon to, and Teacher of Operative Surgery in Guy's Hospital; Surgeon to the Royal Hospital for Children and Women, London. With one hundred and ninety-nine illustrations. Octavo, 1000 pages; Cloth, $5.00, Leather, $6.00. Synopsis of Contents, giving number of Operations described. Part 1. Operations on the Upper Extremity (32 operations). Part II. Operations on Head and Neck (69 operations). Part III. Operations on the Thorax (4 operations). Part IV. Operations on the Abdomen (84 operations). Part V. Operations on the Lower Extremity (46 operations). Part VI. Operations on the Vertebral Canal (2 operations). Appendix. Tapping and Incising the Pericardium. Index of Names. Index of Subjects. P. Blakiston, Son & Co., 1012 Walunt St., Philadelphia. 1889.

The most surprising part about this work is the extremely reasonable figure at which it is offered. We have not time to speculate about the causes producing this, but may say that the reading of the synopsis of contents or the price, would be almost sufficient to warrant its purchase. But to the Contents of the work. The general idea is to present the indications for operation and then to give in detail the steps to be pursued. We might illustrate the minuteness—a most desirable quality, by which the work is characterized by referring to the particulars given, at the very outset, for amputation of fingers. The essentials of the anatomy are given in each operation and in some places cuts of the same. The first point mentioned, and one most desirable in a work which is to be a guide for the young surgeon, viz., going into particulars about each thing to be done, stands out most prominently throughout the whole work. We are free to admit that we have not read the whole book, but there are a number of operations to which we have referred, and we have each time received much satisfaction from the test. In one case, however, the operation for ruptured urethra, we would have expected something definite as to the question of leaving in a catheter or leaving it out: in the former case for how long a period, etc.; when, if at all, to pass sounds, etc., etc., all of which stand out in great prominence the minute the operation is done and constitute a most important feature of the operation; and in general we may say, that if there is any, especially weak points about all the surgeries, it is the question of dressings and after treatment. In the present work, the question of dressings is, where we have examined, given satisfactorily, and that of after treatment is unusually full. The amount of information given about the advantages and disadvantages of individual operations is remarkable; and the book should be in the hands of every active practitioner of surgery.

Atlas of Venereal and Skin Diseases: Comprising Original Contributions and Selections from the Works of Dr. M. Kaposi of Vienna; Dr. J. Hutchinson, of London; Dr. I. Neumann, of Vienna; Drs. A. Fournier and A. Hardy; and Drs. Ricord, Cullerrier, Besiner and Vidal, of Paris; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York; and others. Edited by Prince A. Morrow, A. M., M.D., Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology, in the University of the City of New York; Surgeon to Charity Hospital, etc. New York: William Wood & Company, 1888.

(*Continued from p.* 271)

Fasciculus XI. contains five plates and takes up Herpes, Pemphigus and Purpura. We were rather disappointed not to find a further study of drug eruptions; but the character of the plates on the skin diseases named, almost consoles us and makes up for disappointment. Perhaps the plate on the Pemphigus Vulgaris, showing the elevations, etc., is the most interesting and next to it the plate on Purpura Simplex. Those on Herpes, particularly the one on Herpes Zoster are not quite so good. One nice point often characteristic in Herpes Zoster—the sharp line of demarcation—is not brought out at all.

Fasciculus XII. gives plates of Psoriasis, Lichen, Acne and Molluscum Epitheliale and Verruca Senilis. Neither the plate on Acne Vulgaris nor on Acne Rosacea is good. The turgescence of the vessels, the brilliant color, etc., are not brought out at all. Those on Psoriasis are better, but would it not have been well to give a plate representing the staining that occurs and may last indefinitely after an attack of Psonasis? It would not have been a bad idea to have removed the scales at one place and shown how the skin looks beneath —a point of much assistance and on which great stress is laid in the diagnosis of the affection. We have never seen and probably never will see the form of Lichen presented in plate 57, fig. 2, and are not therefore prepared to discuss it; but if the plate is a true representation, no one could go astray (after having seen it), in making a diagnosis of the disease. The artistic work of all the plates continues to be of a high order and the series has been, for the most part, entirely satisfactory.

American Resorts and Climates. By Bushrod W. James, A.M., M.D., Member of the American Association for the advancement of Science; The American Public Health Association; etc., etc., with a translation from the German, by Mr. S. Kauffman, of those chapters of "Die Klimate der Erde," written by Dr. A. Woeikof, of St. Petersburg, Russia, that relate to North and South America and the Islands and Oceans contiguous thereto. Philadelphia: F. A. Davis, 1889.

As the author says in the preface—"This book does not aim at a scientific consideration of the subject of climatology, but has been prepared in the hope that it may be of some practical service to the numerous health seekers in search of information regarding our climate and health resorts."

In the first chapter he gives the definitions of climate, and states the elements of climate, modifying influences, atmospheric changes, climatic resources of the United States and finishes the chapter with a few well-timed remarks on climate as a remedy.

In the next he points out the benefits and dangers of health resorts. In the several following chapters he gives a clear and concise description of the different health resorts and watering places on the American Continent and adjacent islands, to which the invalid or pleasure seeker can repair in order to escape the chilling blasts and damp weather, or the burning rays of the sun, and the terrestial effluvia which are incident to certain sections of our country during the different seasons. Commencing at the northern boundary of the United States, he goes down the Atlantic Coast naming in succession the different resorts, and giving with each a short sketch of its surroundings, climate, hotel accommodations, etc., etc. Likewise with the resorts upon the Pacific Coast and the Great Lakes, and with all the numerous inland springs. Indeed there is not a place on the continent, which possesses health-giving properties, that has been omitted.

The author, while not detracting from the virtue of European resorts, has very properly pointed out the utter folly of invalids going to distant lands, being among people who speak strange languages, and putting up with all sorts of inconveniences when the same, and in a great many cases, a more suitable climate can be found nearer home.

The style of the book is clear, it is entertaining reading, and it ought to interest not only the members of the profession, but all who travel either for pleasure or to recuperate shattered health.

OUR LIBRARY TABLE.

WHAT IS THE NORMAL POSTURE FOR A PARTURIENT WOMAN? By A. F. A. King, M.D., read before the Washington Obstetrical and Gynæcological Society.

The author considers the question is almost unanimously settled as to the third stage of labor and to a great extent as to the first, so he narrows the question down to the second stage. His conclusions as to the most favorable posture in the second stage are as follows:—1st. There can be no *one* posture that can be normal for the parturient woman. 2d. The continued maintenance of one posture wastes and exhausts the forces of labor, interferes with the normal mechanism, and adds to the duration and intensity of the woman's suffering. 3d. Exactly opposite results are produced by proper changes of posture. 4th. The indications for change are: instinctive desire for it; arrest of the mechanism of labor; emotional discontent, peevishness and despair. 5th. The normal mechanisim of labor being at present imperfectly understood, and the influence of difficult postures upon this mechanism, during the several stages, of the several "positions" of the several "presentations" being unknown, the selection of given postures for given conditions cannot be defined without further study.

THE CONTROL AND CARE OF PAUPER INEBRIATES OF TOWNS AND CITIES. By Lewis D. Mason, M.D., of New York. Reprinted from the *Journal of Inebriety*, April, 1889.

PRELIMINARY REPORT TO THE ILLINOIS STATE BOARD OF HEALTH. WATER SUPPLIES OF ILLINOIS AND THE POLLUTION OF ITS STREAMS. By John H. Rauch, M.D., Secretary. With two appendices.

I.—Clinical Investigations of the water supplies of Illinois. By Prof. J. H. Long.

II.—The Illinois River Basin in its Relations to Sanitary Engineering. By L. E. Covley, C.E.

PHARMACY AND THERAPEUTICS.

LANOLIN AND ICHTHYOL IN ERYSIPELAS.—Nussbaum recommends the application of a pomade containing equal parts of lanolin and ichthyol in the treatment of erysipelas. He then covers the part affected with a salicylated wadding, and claims to have obtained cures in two or three days.—*Journal de Médecine.*

THE number of drugs in the German Pharmacopeia is only 606; in the Austrian, 560; in the Norwegian, 530. The United States Pharmacopeia contains 1,010; the English, 814; the Belgian and Spanish, about 1,500; while France leads the world with 2,000 drugs. *Am. Practitioner and News.*

ADIPOSITY OF THE BREASTS.—Women troubled with this accretion have usually been dosed (in Europe at least) with iodide of potassium. Kisch considers that this treatment is never efficacious except at the cost of emaciating the entire economy. He proposes the following, which he has used successfully against this condition. Cover the breasts with an ointment as follows: Deodorized iodoform, fifteen grains; vaseline, two-hundred and twenty-five grains; ol. menth., one gtt. Then cover the breasts with hot cloths dipped into a solution of alum, fifteen grains; acetate of lead, seventy-five grains; aq. dist., fifteen hundred grains. Impermeable paper is placed over the cloths and the dressing allowed to remain in place for eleven hours. Two dressings daily are given for several weeks. The "slack" of the skin is taken up by using frictions of aromatic alcohol. Bandages must be worn for some months after the cure is effected.

COCOANUT AS A TÆNICIDE.—Parisi, of Athens, reports several cases in which the endocarp of the cocoanut acted as an efficient tænicide. No preparatory treatment is necessary. The patient drinks the "milk." and then eats the endocarp of the nut. This is followed by a feeling of abdominal uneasiness and pain, slight diarrhœa, and finally the expulsion of the tænia after some hours.—*Chicago Journal.*

ANTIPYRIN IN LABOR.—Dr. Ermanno Pinzani recently made a communication to the Societá Medico-Chirurgica di Bologna, in which he gave an account of some experiments he had made with the view of ascertaining the effect of antipyrin on the strength of uterine contractions in labor. Two series of experiments were made. In five cases he simply kept his hand on the woman's abdomen for some hours, and noticed the condition of the uterus before and after the administration of the drug. In eight other cases (on which he made in all twenty-three experiments) he passed an india-rubber ball, first disinfected, and then filled with a watery solution of corrosive sublimate, into the uterus; this he connected with a manometer, which gave him an accurate guage of the pressure exerted by uterine contractions on the fluid in the ball. Dr. Pinzani was careful to exclude irritation of the uterus by the foreign body as a source of fallacy by previously warming the fluid in the ball to the temperature of the body, and by waiting for some time after its introduction before making observations. In the first set of experiments, three-gramme doses of antipyrin were given by the mouth; in the second the doses were from one to two grammes. Dr. Pinzani came to the conclusion that antipyrin relieves the pains of labor simply by lessening the force of the uterine contractions. The effect of the drug showed itself in about two hours after hypodermic injection, and four or five after administration by the mouth. He noticed that infants suckled by women who had had antipyrin given them during labor were apt to suffer from diarrhœa. Dr. Pinzani's verdict is, therefore, decided against the use of antipyrin in midwifery practice.—*British Medical Journal.*

CALOMEL IN PHTHISIS.—In phthisis, Dochman advises the administration of calomel in fractional doses, combined with opium and pepsin. Ergotin and extract of hyoscyamus may also be added to the pills:—

℞.

Calomel (prepared by the moist method), -	gr. xv.
Pepsin, - - - - - - - -	ʒj.
Simple tincture of opium, - - - -	gtt. xxx.
Ext. phelland. aquat., - - - - -	q. s.

M. ft. in pil. no. 60.

—*Thérap. Monat.; La Gazette Méd.*

TINCTURA CASTOREI SPIR. FOR MORPHINE HABIT.—A peasant woman who, during a case of exudative peritonitis, became addicted to morphine taking daily sixteen grains, was denied the drug. Cramer (*Rundschau*, 5. H. 1889) sent her tinctura castorei spir. with the assurance that it would answer as well as morphine. What was his surprise to hear from the patient, that it filled all the indications, and she was soon relieved of the fearful morphine habit. This suggestion is well worthy of further trial.—*Va. Medical Monthly.*

DYSPEPSIA.—The following is a good combination for fermentive dyspepsia.

℞.

Acid, carbolic,	gr. vj.
Tr. nucis. vom.	f ʒss.
Acid, nitr. mur. dil.,	f ℥ss.
Elix. lacto. pep.,	f ℥iij.
Spts. frumenti,	f ℥ij.

M. S.: Teaspoonful, three times a day, before meals.—DR. I. N. LOVE, in *Med. Review.*

TREATMENT OF HYSTERICAL CONVULSIVE COUGH.—

℞.

Powdered valerian root,	15 grains.
Powdered digitalis,	1½ "
Powdered sugar,	15 "

M.

Divide into ten powders. One to be taken every hour.

If the cough comes on during the menstrual period, and is accompanied with dysmenorrhœa, one teaspoonful of the following should be administered every two hours:

℞.

Carbonate of ammonium,	75 grains.
Tincture of opium,	10 drops.
Decoction of yarrow,	4 ounces.
Syrup of saffron,	1 onnce.

M.

—*L'Union Médicale.*

AN IDEAL ANTISEPTIC.—The following is recommended by Rotter (Congress of German Naturalists) as an ideal antiseptic solution which will not injure instruments. A weaker solution may be made by using smaller quantities of corrosive sublimate and carbolic acid:

℞.

Bichloride of mercury,		5	parts (by weight)
Chloride of sodium,		25	"
Carbolic acid,		200	"
Chloride of zinc, Sulpho. carbolate of zinc,	aa	500	"
Boric acid,		300	"
Salicylic acid,		60	"
Thymol, Citric acid,	āā	10	"
Water,		100,000	"

—*Le Progrès Med.*

BINIODIDE OF MERCURY COTTON.—(*Pharm. Zeitung.*)

℞.

Biniodide of mercury (red)	8 parts.
Iodide of potassium,	3 "
Glycerine,	120 "
Distilled water,	q. s. ad 2,400 "

Mix.

Saturate the cotton with the solution and dry.—*Le Progrès Med.*

ASEPTIC CATGUT LIGATURES.—Dr. Gross prepares catgut ligatures, chromicized for use on the larger arteries, as follows: Take 200 grains catgut; remove fatty matter by immersion in ether for twenty-four hours; wrap, when dry, on spools, and immerse forty eight hours in the following solution:

℞.

Acid Chromic,	gr. i.
Acid Carbolic,	gr. c.c.
Spirit Gini Rectificat,	f. ℥ ii.
Aquæ Desillat,	f. ℥ viii.

Remove the catgut under antiseptic precautions, dry, wrap up in any aseptic impermeable material, and before using, place for a short time in ordinary 1 to 1000 corrosive sublimate solution to which one-fifth its weight of alcohol has been added; these ligatures cut through in about seven days.—*College and Clinical Record.*

CORRESPONDENCE.

THE TREATMENT OF TYPHOID FEVER.

Editor GAILLARD'S MEDICAL JOURNAL.

The valuable abstract on the treatment of Typhoid Fever, furnished in your issue for April, 1889, refers to the most important element of Ziemssen's treatment as follows: "strong emphasis is laid upon this method, which is so well known, of reducing temperature by graduated baths."

Having recently studied the subject with some care with the view to impress upon the profession the importance of abandoning the "temperature lowering" measures hitherto in vogue and having shown how fatal the latter have been (The Medical Record, Feb. 16, 1889,) I beg to emphasize the fact, that "reducing the temperature" is not Ziemssen's chief object in the employment of graduated baths. The temperature (103° F.) is simply a guide for the bath, because it is a reliable *index* of the intensity of the existing disease. Its mere reduction is not the *sine qua non* of fever therapeutics, as I have shown, and as I trust is now becoming more generally recognized. Ziemssen says, after referring to the superiority of the graduated bath over the cold bath, " in civil practice, where nervous men and women, children, weakly young people, tender girls, etc., form a large part of the total," the very cold baths, under 14° R. (57° F.) have pretty well gone out of use, since the conviction has penetrated the profession, that *it is not the chief aim of Hydrotherapeutics to practice the greatest possible reduction of temperature.*"

In a previous lecture (Antipyrese and Antipyretische Heilmethoden p. 21), after referring to the great comfort he had personally experienced from cold bathing while suffering an attack of Typhoid Fever, he says, " more important than the directly cooling effect is the refreshing excitation of the central nervous system *which I regard as the most prominent effect of the cold bath.* The stimulus which the nerves of sensation receive from the low temperature of the bath is centripetally propagated and affects in greater or lesser degree all vitally important nervous centres. The depressed excitability of the brain is relieved, and from the refreshed centres emanates a refreshed innervation of the circulation, respiration, digestion, tissue change and locomotive apparatus. The effect is a free sensorium, a bright eye, active movement and surprising desire for food."

This extract from the valuable and practical views of one of the best clinical teachers of the day, clearly designates the true office of the cold bath in typhoid fever, and must, when once fully grasped, lead to the abandonment of all drugs and other measures which simply reduce temperature without counteracting the toxic effects of the typhoid process, which is the true lethal element rather than the high temperature. When this fact, which has been clearly demonstrated by clinical as well as experimental evidence, comes to be appreciated in its full significance, the cold bath carefully adapted to the case in hand, will become the life-saving measure in this country which it has already proven itself in Tübingen, Munich, Stettin, the German army and in Lyon, France.

If my efforts in behalf of this life-saving measure shall lead to its general adoption, I will feel amply compensated. In conclusion permit me to offer the following aphorisms.

1. Every case of typhoid fever, pronounced *or suspicious* should be subjected to the bath when the rectal temperature reaches above 103° F.

2. *The temperature should be taken and* the bath should be continued every three hours, unless patient is sleeping naturally.

3. If patient or friends are timid, begin with cold ablutions hourly with clothes *partly* wrung out of water at 65° F. (sponging is insufficient).

The next step is to immerse patient every three hours, in a bath at 90° F. and gradually reduce its temperature by removing the warm and adding cold water, to 68° F.; duration of bath half an hour unless decided chattering of teeth occurs. Patient and friends being now somewhat reassured, the cold half bath with friction, temperature 65° F. with occasional affusions may be given every three hours: the last step in this gradual education being the full bath at 65° (minimum) to 75° (maximum temperature) F. for fifteen minutes, every three hours, as indicated.

4. In cases of adynamia or muttering delirium with a temperature below 103° a half bath at 100° with gentle, cool affusions (65°) over head and shoulders, will arouse the nerve centres and often change the entire aspect of the case.

5. Chafing the surface during the bath opens the superficial vessels and prevents rapid chilling. The collapse-like manifestation sometimes resulting from the latter are more apparent than real.

6. The tub must stand next to the patient's bed; the water need be renewed only once in twenty-four hours, unless soiled by the patient.

7. Systematic bathing has reduced the mortality of Typhoid Fever from 25 per cent to 1.7, as I have demonstrated by statistics of 30,000 cases, the largest number ever recorded for the elucidation of a question of comparative therapeutics.

SIMON BARUCH M. D.

47 E. 60th St.
New York, April 21, 1889.

A CHICAGO SURGEON'S IMPRESSIONS AND OBSERVATIONS OF EUROPEAN SURGERY: Paris, St. Louis Hospital and Pean—Laparotomy for Cyst of Broad Ligament at 29 Rue le Saute—Operations at the Hospital Beaujon, by Schwartz—Hospital La Salpetrie, and Charcot's Museum. By D. A. K. Steele, M.D., Chicago.

The primary object of my visit to Paris was to see Pean, "King of the forceps," as he has been felicitously dubbed by some of his admirers, do a vaginal hysterectomy for cancer of the uterus, therefore, Saturday morning, at nine o'clock, I was seated in the surgical amphitheater of the St. Louis Hospital, and was rewarded by the first patient presented to the celebrated surgeon for operation, being one of uterine cancer, requiring extirpation of the womb.

Chloroform was the anæsthetic used, and the patient was strapped on the operating table in the lithotomy position, Pean, as usual, sitting directly between the woman's thighs, and wearing the same old full-dress suit that the traditions of the hospital state he has worn for twenty years. The operation was quickly and dextrously done by snipping through the anterior and posterior vaginal cul de sacs with scissors, and then drawing the uterus down with strong tenaculum forceps and putting it out of its peritoneal investment, catching each bleeding point that appeared with long Pean-forceps, and finally clamping the broad ligaments on each side after the uterus had been completely anteverted so as to give the ligaments a half-twist, they were cut off close to the uterus.

All the forceps used during the operation to check bleeding (twenty-nine pairs in all), were left hanging in the vagina, which was thoroughly irrigated with an antiseptic solution and packed loosely with strips of iodoform gauze encircling and intertwining the mass of forceps. The forceps would be removed in from twenty-four to forty-eight hours, at which time the occluding blood-clot would be sufficiently firm to resist the intra-arterial pressure.

The second case operated on by him was an immense lupus over an old umbilical hernia, in a very fat old woman. It was removed by an elliptical incision, including the entire thickness of the abdominal wall, and the wound closed by interrupted silk sutures.

He next drained a pelvic abscess in a young woman, who had pyæmic symptoms for some time, by the vagina, putting in a large perforated rubber drainage tube to the bottom of the abscess cavity and stuffing the vagina with iodoform gauze—demonstrating the location of abscess and mode of surgical procedure by crayon drawings on the black-board.

An interesting case of enchondroma of the external condyle of the femur, occurring in a boy some fourteen or fifteen years of age, was next operated on, the bony outgrowth, which was the size of a small orange, being thoroughly chiseled and gouged away. I regretted not being able to obtain a portion of it for microscopical section.

Then a series of badly set fractures in children were presented, and refractured and redressed in a proper manner, the extremely interesting clinic ending with the correction of a genuvalgum deformity in a boy of sixteen, by fracturing the femur just above the condyles by means of an osteoclast, a fearfully heavy, cumbersome and brutal-looking instrument that has tremendous power, but an instrument that will never be used by an American surgeon, or by any one who has witnessed the simplicity, precision and admirable results of MacEwen's supra-condyloid osteotomies. The osteoclast should become an historical surgical reminiscence, while MacEwen's chisel should be canonized as the ideal scientific corrector of bone deformities.

At the close of the clinic, Pean invited me to witness a laparotomy at his private hospital on Rue la Saute the following Monday morning. I accepted his courteous invitation, and at the appointed hour waited in the little reception room to the left of the entrance, in company with Prof. Hoadley and Dr. Hugo Marcus, until we were notified by the Sister in attendance that the operation was about to begin, when we were ushered into a small, well-lighted operating room, where we found Pean with the same immaculate shirt-front and old dress-suit, seated between the patient's thighs, ready to begin operations. The exploratory incision was made in the linea alba, being about five inches in length, and revealed a large cyst of the right broad ligament, and then began one of the prettiest and neatest enucleations of a large cyst I have ever witnessed. It was perfect in its technique; first, the anterior peritoneal investment of the tumor was snipped through with scissors, and rapidly peeled back as the cyst was drawn down and gradually emptied of its contents, each bleeding point being caught with a Pean forcep, and vessels of any considerable size were caught by forceps on proximal and distal sides, and divided bloodlessly between. The posterior and lateral surfaces of the tumor were enucleated in the same way, and finally it was drawn out of its bed without a single ligature having been applied, although, with its contents, it must have weighed at least twenty pounds.

To the peritoneal covering of the tumor there now adhered some thirty-five or forty pairs of hæmostatic forceps of various sizes and lengths. The pelvis was now thoroughly irrigated with a warm antiseptic solution, after which the forceps were gradually removed or readjusted. The sac was ablated and transfixed through and through with a strong double braided silk ligature, after which it was tied in segments around the outside, the ligatures passing through like the spokes of a wheel and tied as it were, around the felloes. After trimming a little more it was dropped back and the abdominal wound closed by interrupted silk sutures, passed by means of a Pean's long half-curved handled needle. After several stitches had been taken to close the abdominal wound, it was noticed that a free hæmorrhage was taking place from the stump and it was necessary to reopen the abdominal wound, widely retract it, and then began one of those long, unsatisfactory searches for a bleeding vessel from a retracted, hidden stump in a dark pelvic cavity that tests the patience, endurance and surgical ability of an operator. To my surprise I found that Pean was deficient in those qualities that mark the difference between a really great surgeon and a merely skillful operator.

He became nervous, irascible and profane, and soon had all his assistants in the same unhappy frame of mind, and matters did not improve any as attempt after attempt to find the bleeding vessel or to arrest it by additional ligatures around or through the neck of the sac failed; finally, being unable to get a ligature to control it, a number of long hæmostatic forceps were employed to seize the sac at and around the bleeding point, checking the blood and being left in situ, the handles projecting through the abdominal wound, which was closely stitched around and between them, and well powdered with iodoform, and strips of gauze tightly packed around and over them, the whole being covered with many layers of absorbent cotton and a flannel bandage.

The first part of the operation was a brilliant success, both from a diagnostic and operative point of view, but from the moment of hæmorrhage occurring from the stump, its management was a dismal disappointment. I do not know the subsequent history of the case, or its termination. The forceps were to be removed in forty-eight hours. Pean is very indifferent in carrying out antiseptic precautions.

The next morning I went to the Hospital Beaujon to see Professor Labbey, but he was absent, and his place occupied by his assistant, Monseur le Docteur Schwartz, who made a very creditable laparotomy for the removal of an ordinary ovarian cystoma, and also operated on a case of varicocele, making a free incision and dissecting out the enlarged and tortuous veins.

In the afternoon I visited Charcot's wards and museum, in the Hospital La Salpetrie, and saw some of the pathological preparations that have made his name famous in describing certain atrophic osseous changes—about joints especially—due to neurotic influences, and brain or nerve lesions that give rise to the condition known as Charcot's disease.

I also visited the Hotel Dieu; but, all in all, from a scientific point of view, I am bound to say that Paris was rather disappointing.

Western Med. Reporter.

MISCELLANEOUS.

NAGLE ON DISEASE OF THE OVARIES.—Oöphoritis is essentially interstitial, and healthy ova are produced for a surprisingly long time after the stroma of the organ is affected. After the process has reached a certain limit, the follicles wither and the functional activity of the ovary ceases. The atrophy is in some cases active, in others passive. One form of acute interstitial oöphoritis, a primary disease leads to the "hypertrophy with sclerosis," of some pathologists, in which the ovary may grow as large as a goose egg, and with a surface like that of a mulberry. Usually the disease is secondary to a circumscribed peritonitis. The author denies the existence of the chronic follicular oöphoritis of certain pathologists, believing the condition to be simply an individual peculiarity of the possession of an unusual number of healthy follicles, the condition of which is normal. He denies that a large follicle, lined with its usual epithelium, but containing no ovum, can develop into or take any active part in the development of a cystic tumor. He gives reason for the conclusion that simple cysts of the ovary are usually due to cystic degeneration of the corpus luteum. The later stages of interstitial oöphoritis constitute an incurable condition, and justify removal of the organ; but an ovary simply enlarged, or with a cystic projection in its surface, is not necessarily morbid; nor is either condition one demanding its removal.—(Edit.) *Brit. Med. Jour.*

AT a recent meeting of the Pathological Society of London, Mr. Targett showed a specimen of Diffuse Calcification of the Liver, which was removed from a man æt. 62 years, who died in the Exeter Hospital. It was presented to Guy's Hospital Museum by Dr. Davy. There had been a tumor in the epigastric region for seventeen years, which was very hard but not tender, and did not interfere with his work as a farm laborer. Four months before death he developed an empyema on the right side, for which he was treated in the hospital. At that time the abdomen presented a swelling of stony hardness in the epigastric region, which moved with respiration, and appeared connected with the liver There was no ascites, but the veins over the upper part of the abdomen and the lower part of the chest were enlarged and varicose. There was no jaundice until two days before death, which resulted from facial erysipelas. The clinical report was very incomplete, and the condition of the urine was not mentioned; but at the post mortem examination the kidneys looked normal, though much enlarged. The spleen was four or five times its usual size; the liver was firmly adherent to all the surrounding parts; after removal it weighed 66 oz. The left lobe was very much enlarged, and was the cause of the epigastric swelling. The capsule was much thickened, and the substance of the liver so hard that it had to be sawn into sections. The greater portion of the organ was then found to be replaced by fibrous tissue, which was infiltrated with calcareous deposits, composed of carbonate and phosphate of lime and a large proportion of organic matter, but did not contain cholesterin or bile acids. Microscopic examination of the least affected parts of the liver showed changes like those of monolobular cirrhosis, and there were many groups of small round cells in the strands of fibrous tissue. One striking point was the amount of new tissue in the centre of the lobules spreading out between the rows of liver cells. The other parts of the liver were decalcified and examined, but they showed little more than fibroid tissue. There was no caseation; no gummata or evidence of parasites could be found. He considered that the thickening of the capsule, together with the amount of fibrous tissue in the interior of the organ, were suggestive of the primary change being syphilitic, but there was none of the cicatrical contraction so commonly found in old syphilitic livers. The clinical history did not mention syphilis or alcoholism. The specimen was referred to the Morbid Growths Committee.

MEDICAL NEWS AND NOTES.

THE Faculty of the University of Vienna has conferred upon Dr. J. S Billings the degree of Doctor of Medicine *causa honoris.*

AMERICAN MEDICAL ASSOCIATION.—Fortieth Annual Meeting to be held at Newport, R. I., June 25, 26, 27 and 28, 1889. Notice to exhibitors. Intending exhibitors should address Dr. Chas. A. Brackett, Newport, R. I., Chairman Sub-Committee upon Exhibits.

The following classes of applications will be entertained:

1. Medical books and stationary, charts and diagrams, busts, portraits, engravings, photographs, etc.
2. Hospital and ambulance plans and models.
3. Surgical instruments and supplies, general and special (gynæcic, obstetric, orthopedic, laryngeal, otic, ophthalmic, dental, etc.).
4. Microscopes, analysis outfits, and electro-galvanic apparatus.
5. Pharmaceutic products.
6. Rubber goods applicable to medicine and surgery.
7. Invalid furniture.
8. Invalid foods.
9. Sanitary appliances, as ventilators, filters, W. C. basins, traps, and similar necessities, and disinfectants.

As a large attendance is probable, while the space available for exhibits is comparatively limited, the advantage of early application will be perceived.

Choice of space will be given in accordance with the date of application.

Applicants should state the character of their proposed exhibits, that they may be assigned to their respective groups.

The Sub-Committee reserve the right of rejection, in case of apparent reason. HORATIO R. STORER, M.D.,

Chairman Committee of Arrangements.

SURGICAL TREATMENT OF EPILEPSY.—Dr. Bargez has ligated the vertebral arteries in three cases of epilepsy, in two on one side and in the other on both sides. One patient has had no attacks since the operation, the others have had slight attacks.—*Deutsche Medic. Wochenschrift.*

THE Woman's Medical College of Pennsylvania graduated thirty-six physicians at its thirty-seventh commencement, March 7. Among them was an Indian and a Japanese woman, the first of their nationalities and sex ever graduated in medicine. Dr. Le Flesche, the Indian, is a graduate of the Hampton School.

JOURNAL OF LARYNGOLOGY.—It has just been announced that Dr. J. N. Mackenzie, of Baltimore, is the American editor of the *Journal of Laryngology*, and that he will be assisted in his labors by Dr. Delevan, of New York, and Dr. William Porter, of St. Louis.

A NEW MEDICAL CHAIR ESTABLISHED.—A chair of Embryology and Histology has recently been created in the Medical Department of the University of Pennsylvania, increasing the Medical Faculty to fourteen members. It is stated that Dr. H. F. Formad will be elected to the chair at the next meeting of the Faculty. This is the first chair of these sciences instituted in any medical college in this country.

A NEW HYPNOTIC.—An Italian doctor rejoicing in the euphonious name of "Poppi," has been singing the praises of a new hypnotic, called uralium, a compound of chloral and urethane. As is usual in such cases, the new sleep-producer is claimed to possess all the advantages and none of the disadvantages of other hypnotics, and to produce the desired effect when others have failed. No one can say that there is no room for a drug which shall, even partially, justify the claims put forward on its behalf; but, apart from the fact that none such has as yet been discovered, it is doubtful *à priori* whether it is possible to induce artificial sleep without some strain on the delicate nervo-vascular mechanism which presides over this condition.—*Hospital Gazette*, London.

SUSPENSION TREATMENT OF LOCOMOTOR ATAXIA.—This method was accidently discovered by Motchoukowski, of Odessa, while treating an ataxic patient for scoliosis, and has been used by Charcot with much success in a large number of cases of locomotor ataxia. The suspension apparatus employed in orthopedic surgery is used by Charcot, the sittings lasting from one to two minutes and later may be prolonged to three or four minutes. Two or three times a week is sufficient Under this treatment the pains and even the ataxia are relieved, and the mental state of the patient improved. Although the time is yet too short to tell whether this improvement will be permanent, the method must be regarded as a useful palliative measure in combating the symptoms of the disease.—*Journal de Médicine.*

A SURGICAL FEAT.—A really remarkable case of successful surgery was recently shown at the London Medical Society. The patient was a man who had been operated on several times for a sarcomatous growth of the upper jaw. On the last occasion it involved the right eye and the floor of the orbit, which were accordingly removed by Mr. Henry Morris, leaving a yawning chasm which was appalling, even to persons inured to the horrors of the operating theatre. The cavity was bounded above by the roof of the orbit, and on the outer side by the outer wall of the orbit and the descending ramus of the lower jaw. Through it one could peer into the pharynx and see the tongue uncovered by the hard palate. The Eustachian tube was also visible. The deformity is marked under ordinary circumstances by a skillfully manufactured obturator, comprising an artificial eye, cheek and hard palate.

CHAIR OF SURGERY AT THE JEFFERSON MEDICAL COLLEGE.—The Trustees of the Jefferson Medical College have elected Dr. William W. Keen to the chair of Principles and Practice of Surgery and of Clinical Surgery, made vacant by the death of Dr. Samuel W. Gross. Dr. Keen was graduated from Brown University in 1859, and from the Jefferson Medical College in 1862. For two years he was a surgeon in the United States Army, and subsequently studied in Europe for two years. Later he taught, for nine years, pathological anatomy in the Jefferson College, and also conducted the Philadelphia School of Anatomy. Since 1884 he has held the chair of Surgery in the Woman's Medical College of Pennsylvania, and he also is Professor of Artistic Anatomy in the Pennsylvania Academy of the Fine Arts. Dr. Keen is well known as an accomplished anatomist, a skillful surgeon, an admirable teacher and a man of high personal character. Those who have had the pleasure of attending his lectures in the Philadelphia School of Anatomy will feel that the teaching force of the Jefferson College has received in him a very important addition.—*Medical and Surgical Reporter.*

THE SOCIETY OF THE ALUMNI OF CHARITY HOSPITAL, a new organization already numbering between forty and fifty members, held its first regular meeting on Tuesday evening, May 7th. The officers are as follows; President, Dr. Ramon Guitéras; vice-president, Dr. C. W. Stimson; secretary, Dr. W. L. Baner; treasurer, Dr. Granville M. White. Ex-internes of the hospital who wish to join the society are asked to communicate with the chairman of the committee on new members, Dr. Walter L. Carr, No. 54 West Thirty-eighth Street, giving the dates of their terms of service.

DR. CLEMENT CLEVELAND, has been appointed surgeon to the Woman's Hospital, New York. We congratulate the Hospital on the excellence of this appointment.

VALUABLE HINTS IN ABDOMINIAL SURGERY.—Dr. Joseph Price, of Philadelphia, referring to the complications that follow abdominal section, said the position of the incision, the condition of the abdominal walls, and the manner of introducing the sutures, are of great importance. Death has followed tight sutures, and he was satisfied that hernias often follow them. He always draws his sutures lightly. If you use three or four to the inch, tie them lightly, with perfect coaptation, your result will, as a rule, be perfect. In introducing his sutures, he takes in half as much skin as fascia, and twice as much fascia as peritoneum. This gives better apposition to the center of the wound.

THE AMERICAN INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE.—The Medico-Legal Society of New York has decided to hold under its auspicies an International Congress of Medical Jurisprudence, at which representatives from all countries are invited to attend and contribute papers.

This Congress is to be held in the city of New York, on the first Tuesday in June 1889, and promises to be an occasion of great interest to the Medical Profession.

EDITORIALS.

DEATH OF THE MIND READER WASHINGTON IRVING BISHOP.—It is with regret that we record the facts concerning the autopsy on the body of Mr. Bishop, the famous mind reader.

It seems that Mr. Bishop fell dead suddenly while sitting in one of the clubs of this city.

Five or six hours after death the physician who was called, with the assistance of two colleagues, performed an autopsy on the body, with a view, presumably, to discovering the cause of death. The autopsy was undertaken without consulting anyone who was related to the dead man, and without calling in a coroner.

The mother and wife of the dead man, claim that he was not dead, that he was merely in a cataleptic condition, that he had often fallen into trances and that on one occasion he had lain as dead for several days. The mother and sister of the deceased, state that they themselves are subject to catalepsy. The accusation they make against the surgeons is alarming but their words and statements, are too much colored by the vividness of hysterical excitement to demand more than a passing notice from rational and thoughtful people. Still, there are many things about this case that are are pregnant with interest and warning. The marvellous character of Mr. Bishop's mind is well known. He himself had stated in life that he was subject to catalepsy and feared that some day he would be interred alive or subjected to the surgeons' critical knife while in this state. That a person in a cataleptic trance is conscious of what goes on around them is questionable, indeed, it seems that the only warrant for the opinion that they are, lies in the indefinite and vague statements of hearsay or of newspaper reporters. Those who have experimented in hypnotism, do not state such to be the fact; or rather if hypnotized persons in the cataleptic condition, are cognizant of the surroundings, it is only in their unreal personality, and the memory of the facts which transpired in that state, is always obliterated except they are retained by the express suggestion of the hypnotizer. The idea that a cataleptic can feel the sharp sweep of the knife and the crunching of the saw while unable to cry out, is probably without any other foundation than the baseless fabric of morbid imagination. Upon this point seems to hang the sensational character of the whole matter. Are there any absolutely certain signs of death save decomposition? The weight of authority seems to affirm that there are not. Nevertheless the rigor mortis differs from the rigidity of catalepsy. If a cataleptic limb be bent, it will remain in the position given it for considerable time, but will finally return to the position demanded by gravity. The limb affected by rigor mortis cannot be bent save by great effort, and will not retain the attitude given it—that is, has no plasticity. If the matter ever comes into the courts, this point of difference between catalepsy and rigor mortis must be of great value in the evidence. If the deceased had been in a state of catalepsy, there must have been some evidence of life exhibited either in the circulation or in the movement of the body while the dissection was being accomplished. It is hardly probable that the deceased was in a cataleptic condition—nevertheless, it is barely possible that he may have been, and this possibility is indeed an unpleasant reflection for a humane mind.

The undue haste in performing the post mortem was beyond a doubt due to the recognition of the scientific value an early examination of the brain of this wonderful man would have. The spirit of scientific investigation is commendable and should be applauded as long as it is bounded by reason and is pursued with due considertion for the rights of others, but we do not consider it proper for any surgeon to hold an autopsy in so short a time, on so peculiar a case with such a peculiar history, without the consent of those to whom the body belongs. The unfortunate case will furnish the opportunity to the daily press for much sensational "rot."

The female relatives of the deceased state their purpose to prosecute the surgeons who performed the autopsy. If this is to be done, it were better done quickly, for the sooner this sensational matter is hushed, the better for the community at large.

We feel convinced the surgeons acted in the firm conviction that death was present, and that what appears now to be their undue haste, was the result of a desire to throw some light upon a dark subject in scientific investigation.

WE record, at a somewhat late date, the substance of a paper read before the Medical Society of London, Oct. 22, 1888, by Benjamin Howard, A. M., M. D., F. R. C. S. E.

The paper concerns a method of raising the epiglottis, in the unconscious state, which the author denominates as "a new and only way of raising the epiglottis." The title of the paper is irritating to a critical mind, seeing that the use of the adjective *only* demands the use of the definite article. If the author had written and "The only way of raising the epiglottis" we should have found as little fault with the title as with the substance of the paper. The essay opens with the propositions that "when the unconscious state deepens into the insensitive state called apnœa, the epiglottis falls backwards and closes the glottis. In this condition the elevation of the epiglottis is the first thing in order and in importance, as, without this, respiration, whether natural or artificial, is impracticable and the result fatal." In the past it has been held that the only means by which the epiglottis can be raised is by pulling the tongue forward. It is the purpose of the essayist to show that this impression is an erroneous one, that the epiglottis cannot be raised by traction upon the tongue except in a slight degree, and that the method suggested by himself is the only correct way to raise the epiglottis, that whenever other methods have been used successfully, it has been owing to the fact that his method has been applied unconsciously.

In order to put the thing in a nutshell, we will quote the words of the essayist, illustrating his method:

"With one hand under the chin and the other on the vertex, steadily but firmly carry the head backwards and downwards. The neck will share the motion which must be continued until the utmost possible extension of both head and neck is obtained."

In the paper is detailed a number of interesting experiments which were made upon the cadaver with a view to observing the exact position of the epiglottis when the customary methods of raising it are employed. It was shown by these experiments that the post-oral air passage was unobstructed only when the head and neck were extended in the manner described in the author's own words. If this very simple and easy-to-be-accomplished method will relieve us of the necessity of jerking forward the angles of the jaws, will enable us to lay aside the tongue forceps, and will take from the impatient and testy operator the pleasure of passing a silk suture through the patient's tongue, when he seems on the point of swallowing it, we hail it as a means of much comfort to the etherizer, and as a preventive of post-operative glossitis. What can be imagined more disagreeable to an operator than to be suddenly stopped as he is on the point of making a graceful and bold *coup* with his scalpel, than the information from the timid novice of the ether cone, that the patient has swallowed his tongue? If the case were not a serious one, the picture of the surgeon dropping his knife and grasping a pair of sharp-toothed forceps, would not be without a ridiculous element.

But suppose the tongue will not stay in the grasp of the cruel forceps, why, then the surgeon calls for needle and silk and having passed a suture through the base of the organ, ties it in a loop and this is caught over the kindly forefinger of some bystander more interested in the operation than in keeping the tongue out of the throat. The result often is a swollen tongue and much discomfort to the patient.

It is by no means difficult when a patient is thought anæsthetized, to dislocate the jaw in an incautious or hasty jerking forward of the angles, many a patient has been unable to explain the soreness in his jaws after an operation, even when the surgeon has restricted his operative measures to a region diametrically opposite.

There is little doubt that Benj. Howard, A. M., M.D., F. R. C. S. E. is correct in his conclusions. When, under anæsthesia our patients seem to be on the point of passing into apnœa, let us by all means make use, first at least, of this very rational method of removing the tongue from the air canal.

AN esteemed correspondent from Charleston, South Carolina, Dr. P. G. De Saussure writes as follows:

"A short journey last summer, revealed to me a filthy if not dangerous practice, which prevails on most of the first-class railway carriages, of placing the water coolers in the water closets. The cooler is as you can see by looking, if your cars are like those in use in the Southern States, placed in one corner of the closet. True the spout is not there but the cooler is. Now is not this more than a possible explanation of many of those cases of fever, occurring among persons who have just returned from a visit to the country. If there is a bad smelling place on earth it is the water closet of a railway car. All travellers use the closets the draughts through these places is constant and great, if there are any germs (harmful of course) in the fæces, they may easily get into the cooler, for there covers are as a rule, very inefficient. Furthermore, time and time again I have seen the porter place the cooler covers, face down on the privy seat and again on the floor. What do you think of the danger to health?" We agree with Dr. De Saussure that, from a sanitary point of view, much remains to be done before the Pullman Palace Car is worthy of its ambitious name. The Doctor goes on to remark, "and hear my dear Doctor, is another subject of interest. What is the cause of ulceration of the *duodenum* in cases of burn? A burn shows an acid reaction, that is the secretions from a burnt surface are acid, the urine is rendered intensely acid, the tears are acid, the sweat and saliva, vomit *intensely* acid. Now into the duodenum opens the main duct of the pancreas through a small opening or through a duct common to it and to the liver, the secretions should be *alkaline* but I think they are *acid* under these circumstances (in burns) and thus the products from the stomach are not neutralized and we have possibly a digestion of the mucous membrane of the duodenum or it may be an ulceration from too much acidity. I thought of this three years ago, and acting on it, have since put my patients, suffering from burns, of whom I see a great many, on alkalies, and have lost but one from the said ulceration."

The origin of a duodenal ulcer after a burn has elicited much controversy and even with Dr. De Saussure's ingenious speculations cannot be said to be sufficiently explained. Catiano expresses the opinion that the duodenal ulcer and the intestinal catarrh originate in consequence of detachment of the epithelial layer and the action of the intestinal juice on the parts bared of epithelium. The detachment of the epithelium is said to be evoked by the formate of ammonium, which is formed by the decomposition of hydrocyanic acid in the organism.

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